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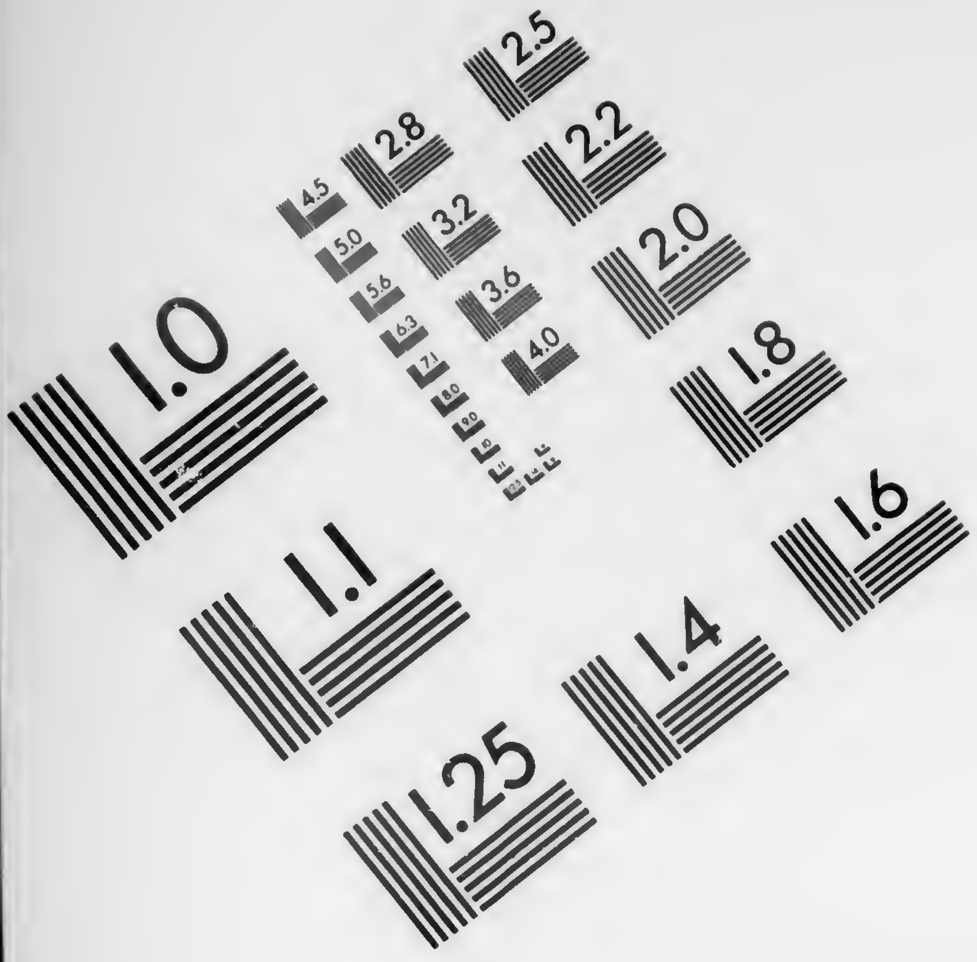
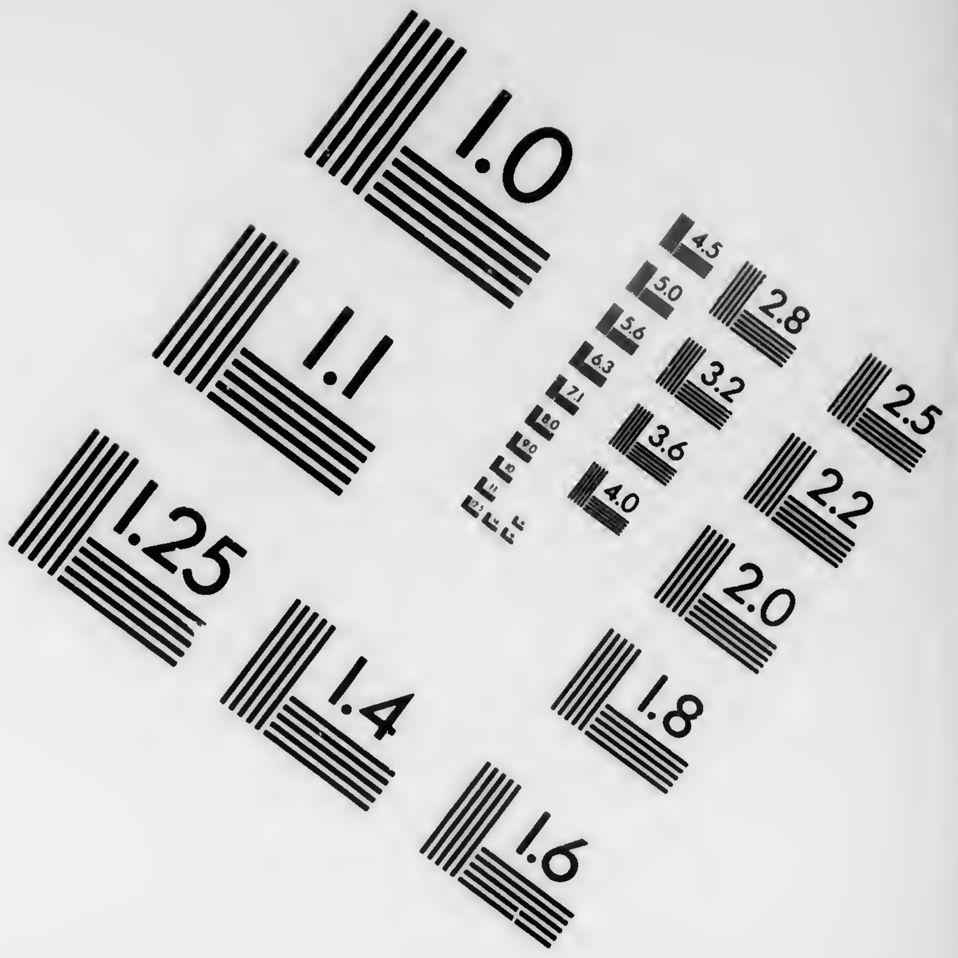
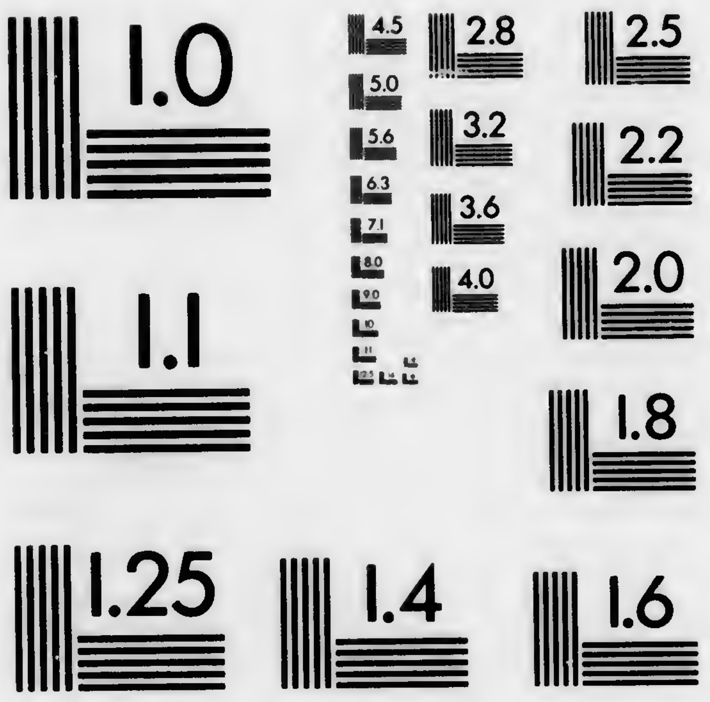

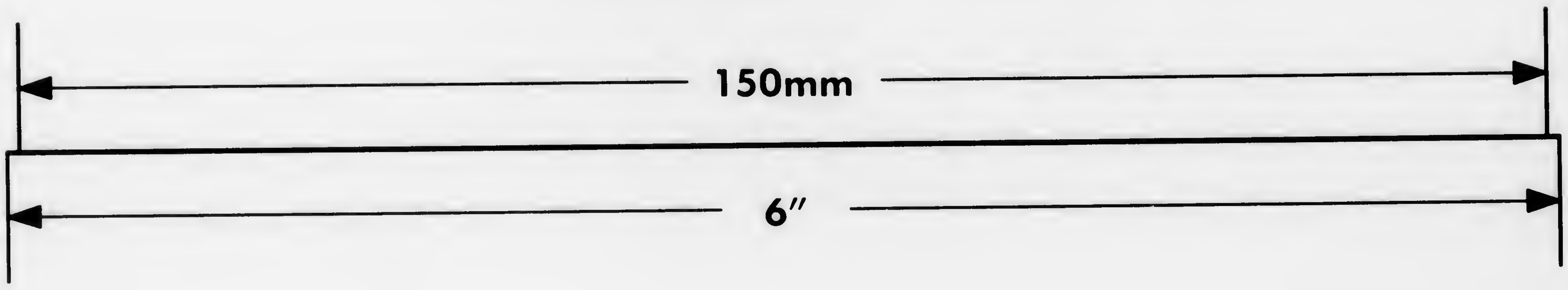

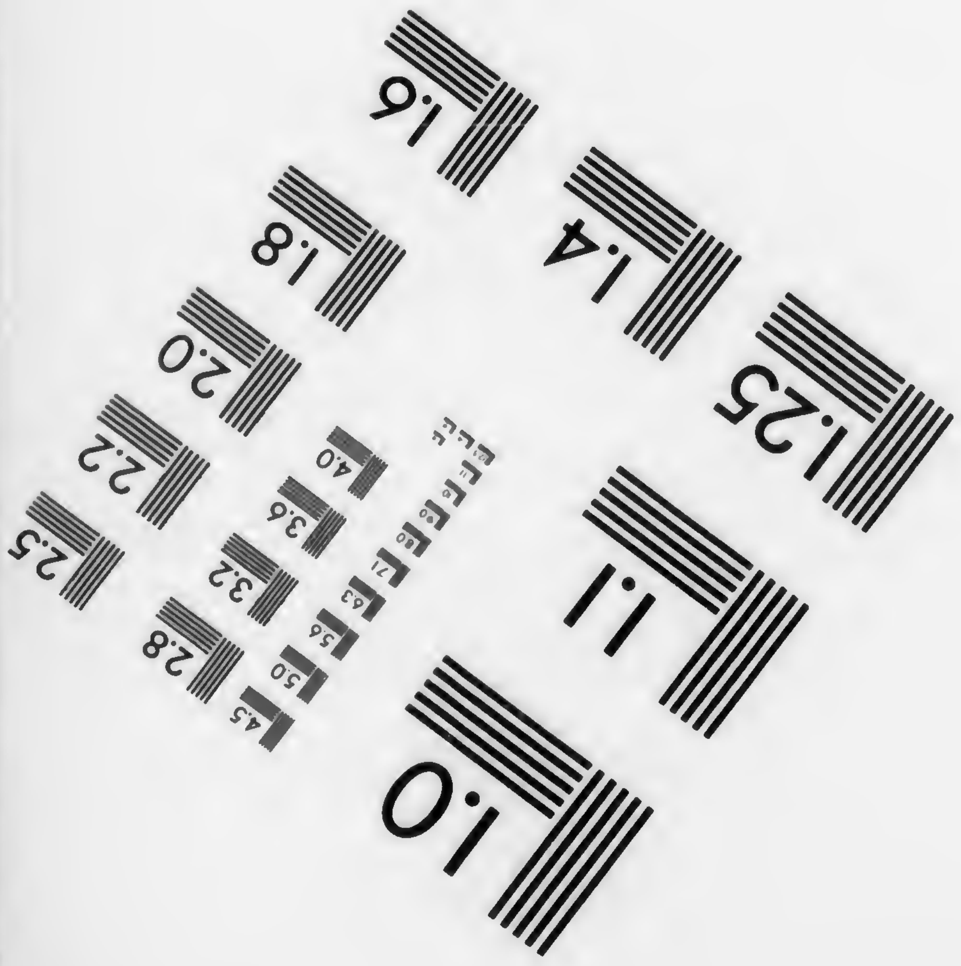
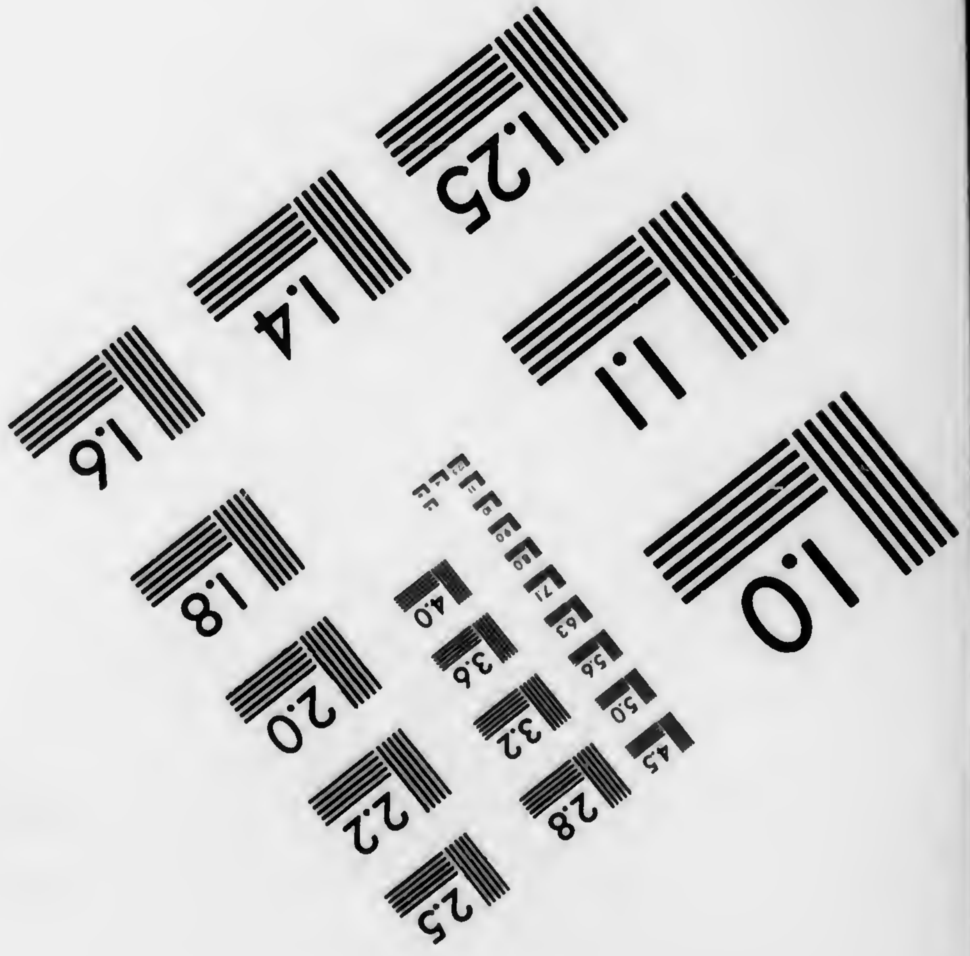

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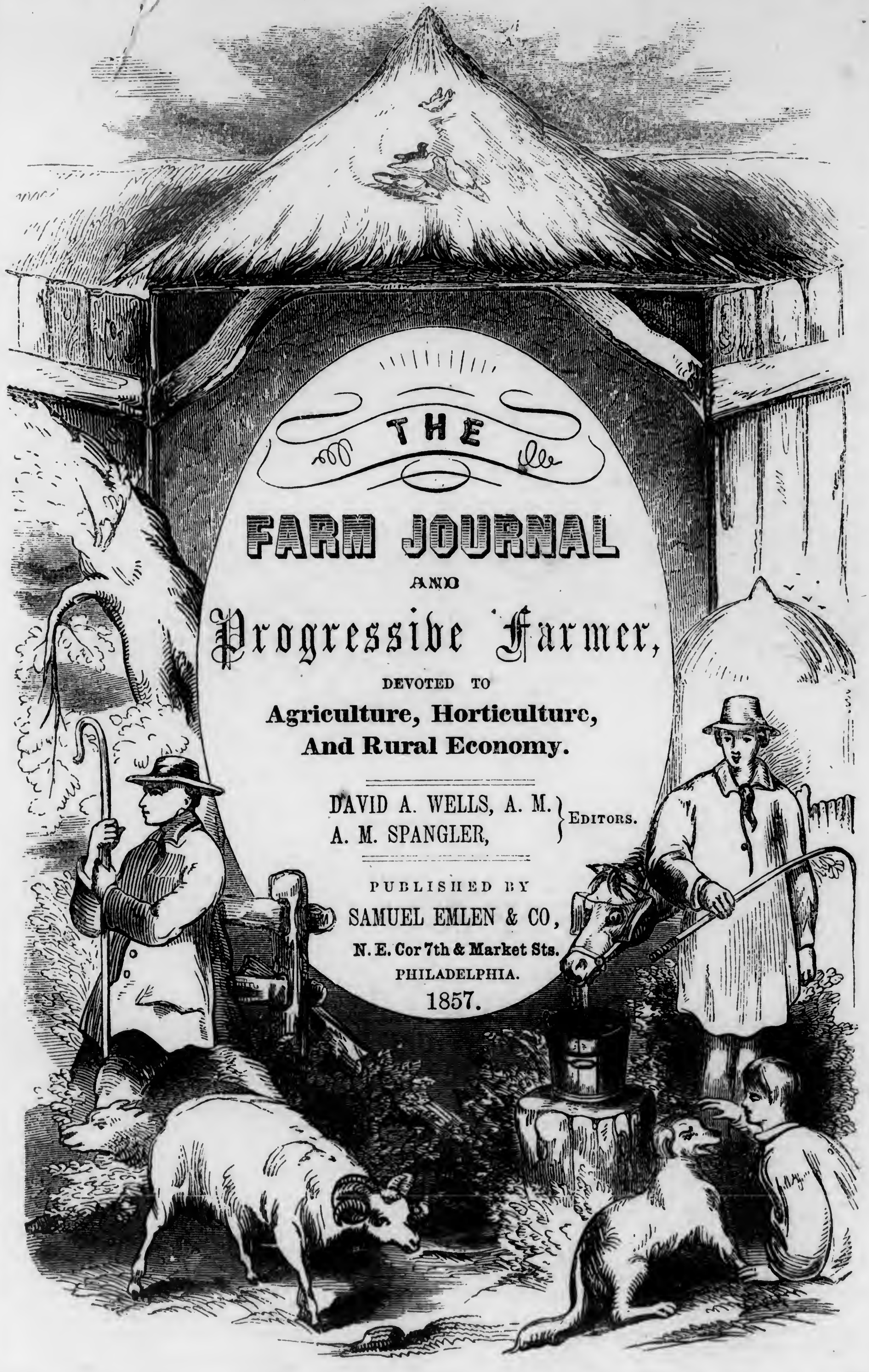

# THE FARM JOURNAL AND Progressive Farmer,

DEVOTED TO

**Agriculture, Horticulture, And Rural Economy.**

DAVID A. WELLS, A. M. } EDITORS.
A. M. SPANGLER, }

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In presenting the first number of a new volume, it is expected that something will be said indicative of what we purpose doing in the coming numbers. To tell the truth, good friends, we scarcely know what to promise you. That there is ample room for improvement in the Journal, you cannot fail to perceive, and this we are ready to admit. How much better than the last the coming volume will be, we cannot say, until we have heard from you on the subject, and have learned what part you propose taking in the work of improvement. If you will, one and all, agree to favor us with your views upon the various subjects which almost daily present themselves to your notice, and which are really well worthy, not only yours, but every farmer's careful consideration, we will promise you a volume which shall equal in every particular, any publication of the day. What a noble collection of facts might we now be able to present monthly, if our readers and subscribers but felt a proper degree of interest in the character of our Journal. We have frequently remarked, and now repeat it, that the FARM JOURNAL is, to all interests and purposes, the property of the farmer, and as such it is his duty, as it ought to be his pride to sustain it, not merely by his subscription, but by his *pen*. The dollar which is paid for it annually, is absolutely essential to its existence, but the communications from correspondents are equally essential. They form just as important an element of its life as the subscription money, and are more powerful far, in promoting its success. For these reasons we have repeatedly urged upon our friends to *write!* Why is it that a second invitation is needed in this direction. We have sometimes thought that the opportunity is one which every farmer ought gladly to improve; but we have been disappointed, and to tell the honest truth, rather disheartened at the indifference which has been manifested. Is it possible, that in this great State of ours, abounding as it does, with thousands of intelligent farmers—men as capable of preparing an article for publication as those of any other State—is it possible, we repeat, that it is necessary to beg thus for correspondents! But we will hope for better things. The day has been, when every line in the Journal was original, and we look forward with confidence to a return of encouraging state of things. We confess we have no new reason to offer why this seeming indifference should no longer prevail; having exhausted the subject long since. We can only hope to induce our friends to write by jogging their memory from month to month. Some of them perhaps, will commence the good work again, and others stimulated by their example, will follow in their footsteps, until we shall again be enabled to present an agricultural literature of our own, and not be dependent on other sources for the information which abounds so plentifully everywhere around us.

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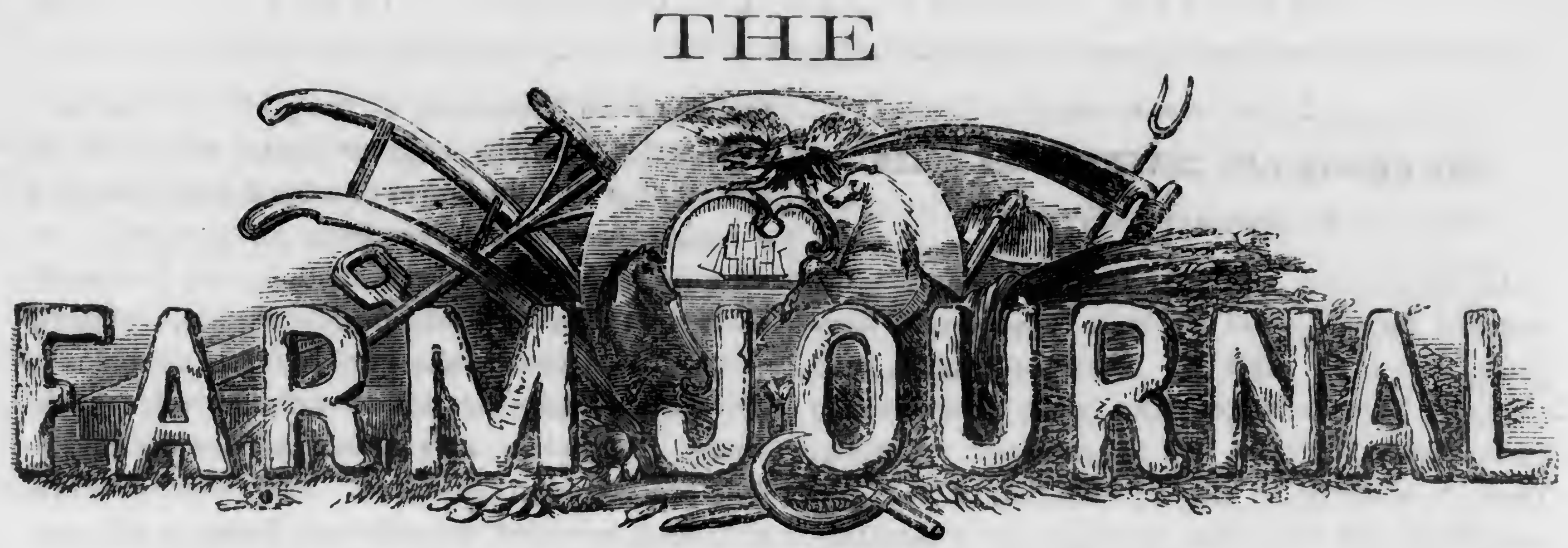

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* * *

### TO READERS AND CORRESPONDENTS.

In presenting the first number of a new volume, it is expected that something will be said indicative of what we purpose doing in the coming numbers. To tell the truth, good friends, we scarcely know what to promise you. That there is ample room for improvement in the Journal, you cannot fail to perceive, and this we are ready to admit. How much better than the last the coming volume will be, we cannot say, until we have heard from you on the subject, and have learned what part you propose taking in the work of improvement. If you will, one and all, agree to favor us with your views upon the various subjects which almost daily present themselves to your notice, and which are really well worthy, not only yours, but every farmer's careful consideration, we will promise you a volume which shall equal in every particular, any publication of the day. What a noble collection of facts might we now be able to present monthly, if our readers and subscribers but felt a proper degree of interest in the character of our Journal. We have frequently remarked, and now repeat it, that the Farm Journal is, to all interests and purposes, the property of the farmer, and as such it is his duty, as it ought to be his pride to sustain it, not merely by his subscription, but by his *pen.* The dollar which is paid for it annually, is absolutely essential to its existence, but the communications from correspondents are equally essential. They form just as important an element of its life as the subscription money, and are more powerful far, in promoting its success. For these reasons we have repeatedly urged upon our friends to *write!* Why is it that a second invitation is needed in this direction. We have sometimes thought that the opportunity is one which every farmer ought gladly to improve; but we have been disappointed, and to tell the honest truth, rather disheartened at the indifference which has been manifested. Is it possible, that in this great State of ours, abounding as it does, with thousands of intelligent farmers—men as capable of preparing an article for publication as those of any other State—is it possible, we repeat, that it is necessary to beg thus for correspondents! But we will hope for better things. The day has been, when every line in the Journal was original, and we look forward with confidence to a return of encouraging state of things. We confess we have no new reason to offer why this seeming indifference should no longer prevail; having exhausted the subject long since. We can only hope to induce our friends to write by jogging their memory from month to month. Some of them perhaps, will commence the good work again, and others stimulated by their example, will follow in their footsteps, until we shall again be enabled to present an agricultural literature of our own, and not be dependent on other sources for the information which abounds so plentifully everywhere around us.

177216

For the Farm Journal.

### THE ORIGIN AND DIVERSITY OF SOILS.

By Harland Coultas.

All observation and experience proves that the material forms around us, both organic and inorganic, are in a state of incessant motion and change. These changes take place according to fixed, invariable laws, which are ever operating. There is a continual play of affinities, of chemical attractions and repulsions amongst the elementary particles of material bodies, by which their natural inertia or inactivity is overcome, and a perpetual and regular succession of changes is thus produced in every kind of matter. In some instances, many days, weeks, months, years, and even ages pass away, before the effect of such changes become visible; but the causes are not on this account the less effective, for on careful examination, we find that those causes are the most important and effect the greatest changes, which attract the least attention, and are apparently the most insignificant in their action within a limited space of time. In the crystalization of minerals and metals, the oxydation of iron, the spontaneous growth and decomposition of animals and plants, and finally in the disintegration of rocks, and the conversion of the disintegrated materials into fruitful soils, we see the slow and gradual progress of chemical action. To this last topic, the "Origin of Soils," we now invite the attention of the reader.

The science of Geology is closely connected with practical agriculture, for it throws much light on the nature and origin of soils, and explains those natural causes which have produced their diversity.

On a partial examination of the earth's surface, it might be supposed that the varied materials of which it is composed are all indiscriminately situated with reference to each other—sandstones and clays, limestones and gravels are mingled together without any apparent order, and judging from these appearances, many really entertain such an opinion —the interior of the earth is regarded by them as a perfect sample of confusion and irregularity.

Little, however, is to be learnt from these superficial accumulations; which only tend to mask and conceal the true features of the earth's structure. But if places are examined where the crust of the earth is broken and presents what is called a natural or artificial section, such as sea cliffs, ravines, railway cuttings, quarries and coal mines, we shall find beneath this superficial deposit the massive beds of rock, of which the loose pieces on the surface are the detatched fragments. These examinations have been made, on the most extensive scale, in different parts of the world, and the fact has been ascertained, that the solid framework of the globe is composed of a series of rocky beds or strata, which lie on one another like the leaves of a book, and observing a regular order of superposition. These rocks are all quite different from each other, and frequently cover vast areas of the earth's surface. Organic nature varies continually in the different regions of the earth; inorganic nature remains always the same. Everywhere we see the same laws of formation proclaiming themselves. Beds of clay, gravel and sand, stratified deposits are found in all parts of the earth from the equator to the poles, and the Geologist in foreign countries far from his native land, still recognizes in the crust of the earth the same rocks and the same general appearances when the fauna and flora on its surface are altogether different.

It must not, however, be supposed that these rocky beds or strata, as they are termed by Geologists, are concentrically situated, or are spread over one another like the coats of an onion, so that it is only necessary to dip through them in one place in order to get at the entire series; for, owing to earthquakes and other disturbing causes which have taken place at different periods, separated by vast intervals of time, these rocks rarely lie in a horizontal position, but rest more or less on their edges, which make their appearance in succession at the earth's surface. Hence it is, that in travelling across any considerable extent of country, we walk as it were on the ends of the upturned beds, and come in succession on different soils, which vary with the change in the underlying rocks or strata, as we pass from one on to another.

The disturbance suffered by the strata is of very great importance, and is essential to the stability of the present system of things, however destructive it may have been at the period of its occurrence to the life then existing. Through the agency of rains and frosts, rivers and oceans, a continual system of disintegration and degradation is going on at present, all over the earth. The hardest rocks, the loftiest hills and mountains, are gradually broken down and their matter removed to other localities. Every river enters a lake or sea loaded with matter which has been detached by a thousand little tributary streamlets, from the land over which their currents have passed, and thus the seas, lakes and oceans are gradually shallowing. Were there nothing to counteract these degrading influences, all the land now above the sea would in time be spread beneath its surface, and the whole earth would become one vast saline marsh. The unevenness of the earth's surface is, however, again either suddenly restored by the volcano or the earthquake, or slowly, by gradually elevating processes, and new land rises above the waves of the ocean as fast as the old land is disintegrated and spread below its surface.

It is therefore owing to causes now in operation, that the crust of our globe consists everywhere of a more or less solid mass of rock covered by accumulations of loose material more or less deep, varying from a few inches to two hundred feet in depth. The soil rests on the upper portion of these fragmentary deposits.

The whole subject of the formation of soils and their distribution over the earth's surface is replete with interest and instruction. Every earthquake which has in by-gone times fractured and dislocated the solid strata; every flood which has swept over the ancient continents; every change of level which has elevated the bed of the ocean or depressed the land below its surface, has contributed more or less to bring about that mixture of materials, sand, clay, and lime, which now form the earth's upper covering, the fruit-bearing soil, the inexhaustible source of national prosperity and strength.

(To be continued.)

* * *

Mr. R. A. Alexander, of Kentucky, whose reputation as an importer and breeder of fine animals is familiar to most of our readers, has communicated his views to the Louisville Journal in regard to the advantages of breeding from purely bred animals. We give the article in full, commending it to the attention of those of our readers who feel desirous of improving their stock. Mr. Alexander's views are not those of a theorist; but are the result of many years' practical experience and observation, and are, therefore, entitled to more consideration than the productions of those who have never had the same opportunities. Mr. A. does not offer his opinions as original, the same system, as he observes, having been fully tested in England, by the most distinguished breeders. His experiments and observations are merely confirmatory of those advanced by English breeders. This fact, so far from detracting from their value, increases it, and renders his suggestions the more worthy of the serious consideration of every one who feels an interest in the improvement of the stock of our country.

### THE ADVANTAGES OF BREEDING FROM PURELY BRED ANIMALS.

Before proceeding to make any remarks on this subject, it may be well to define what is meant by "purely bred animals."

I will, therefore, state that I consider an animal as purely bred which itself possesses all the points and characteristics of the breed to which it claims to belong, which has inherited these points and characteristics from its progenitors, male and female, and which, we have every reason to believe, will transmit them to its offspring.

The value of the pedigree of an animal can only be duly estimated when we know whether or not the qualities we require in that animal, of whatever sort or breed it may be, have descended through several successive generations, until they may be supposed to be inherent in that particular family. An extended pedigree may, therefore, be considered of little value unless we are satisfied that the long list of names includes none but good animals; and, were more attention given to this circumstance, breeders might, not unfrequently, save themselves much disappointment.

That an animal, belonging to a family bred for many successive generations with a view to perpetuating certain good qualities, should transmit these qualities to its offspring, is by no means extraordinary; but the marked change produced by a single cross of a purely bred animal on one of inferior breeding might well surprise one unaccustomed to observe such things, and can only be accounted for, by supposing that the parent of inferior breeding, having no marked characteristics inherent in the family to which it belongs, and, therefore, no particular type after which to breed, yields in this respect to that (parent) of which the characteristics are distinctly marked, and the offspring is, therefore, found to resemble most strongly the well-bred parent. The improvement, thus effected, is frequently so marked as to have led to the expression, "that the first cross is the best," by which is meant that the offspring from the first cross is superior to the offspring of the second or third cross, or that the half-bred animal will be found superior to that having three-fourths or seven-eights of good blood. To this, however, I cannot agree, as I am strongly of the opinion that each succeeding cross with the purely bred animal will cause an improvement, though, as there is not the same room for improvement after the first cross, it cannot be so easily observed.

The present may be truly called the age of progress, and, as our people are fond of experiment, it is not surprising that America should deserve and receive credit for making rapid advances in useful discoveries; these experiments and discoveries seem, however, to be mostly confined to mechanics and the arts, and the farmer here as elsewhere seems th last to leave the beaten track in search of improvement or profit.

In older countries, where the value of land is so great, as to render it necessary for the tenant farmer to study narrowly every means of economizing in each operation of the farm, necessity, often called "the mother of invention," has forced a change of system in the breeding of stock, as well as in the cultivation of the soil. As in the latter, old implements have been improved upon, or new ones substituted, and an improved system of cultivation has been generally adopted, so in the breeding of every variety of useful animals have vast changes been effected, either by the improvement of the original stock of the various districts by careful breeding or by the introduction of new and improved varieties, to be bred pure or for the purpose of crossing.

The high state of improvement to which well-bred animals have been brought, would render it most desirable that this class of stock should become generally distributed throughout the country, but the skill and unceasing care necessary to breed and keep them up in perfection, the time that would be required to substitute them for the numerous varieties now found throughout the country, to say nothing of the expense of acquiring the purely bred stock in the first instance, must almost preclude the idea that such can ever be the case, and probably here, as in England, the rearing of this sort of stock will be confined to comparatively a few breeders. We are, therefore, constrained to look to some other mode of improvement, and none so strongly recommends itself as the crossing the females of the common stock of the country with the males of the improved breed. The well ascertained fact that the sire has more influence in the shape and general appearance of the progeny than the dam, would suggest this plan of improvement, and, when males of high character and breeding, such as are above termed purely bred animals, are used for this purpose, the improvement is so rapid as to leave little to be desired by the enterprising farmer.

The system here recommended is one that has been followed for a series of years with the utmost advantage by the most intelligent stock-raisers throughout Great Britain. These men, never themselves owning a thorough-bred female, or an animal known to be such, attend the sales or lettings of those who make a business of breeding thorough-bred stock, and there annually, or as often as they require one for crossing, either purchase or hire a bull or ram, and having used him for a year or two, or as long as he will answer their purpose, dispose of him to seek another.

The large number of inferior animals bred and sold at prices scarcely sufficient to repay the cost of the food consumed, and in many instances for even less, would suggest an inquiry into the annual loss to individuals as well as to the State, caused by the injudicious system of breeding so generally followed throughout the country; but it might be considered too great a trespass on a paper not devoted entirely to agriculture, to enter upon such an investigation.

I will, however, observe that, were the system above recommended generally adopted throughout the State, and none but well-bred males used to breed from, the value of the produce of such a cross might well be estimated at double the present sum realized from the stock.

These remarks, though they have reference more especially to the breeding of cattle, have been expressed in general terms, as they will be found to apply equally well to the breeding of horses, sheep, and hogs; in short, to any of those domestic animals found on our farms. R. A. A.

## SHOVELS.

There are annually manufactured in the United States 2,100,000 shovels, or about 600 dozen per day. They are made entirely in this country, about one third the number in Massachusetts, and nearly all the rest in Pennsylvania. As the shovel is one of the civilizers of the world, the annual demand for that useful article shows how much the people of the United States are contributing by their labor, towards improving the social condition of mankind.

## TRIAL OF PORTABLE CORN MILLS.

At the late Indiana State Fair seven corn mills were tested together. Each mill was made to use eleven feet lever, and to perform twenty revolutions, while their hoppers were kept supplied with ear corn of the same quality. The following shows the average power employed and the quantity of meal made by each mill:

| | Lbs power. | Qts. meal. |
|---|---|---|
| Excelsior Young America | 382 | 58 |
| Star Mill | 370 | 53 |
| Brant's Mill | 234 | 44 |
| Little Giant | 387 | 78 |

Eagle and Troy Mill broke down.

## GAS LIME

"Gas lime must not be applied in a fresh state to any crop, but should be mixed with two or three times its weight of earthy or vegetable mould, and then turned over repeatedly for at least twelve months. It will then be fit for applying to the land. It will be most appropriate for clover or grass lands. From fifty to sixty bushels per acre, as aforesaid, may be applied to each acre." So saith the Mark Lane Express. Will it pay?

## HOW TO GET RID OF PESTS.

A writer in the *Country Gentleman* recommends *strichnine* as the most effectual means of riddance from such pests of the farm, as rats, mice, crows foxes, &c. For the mice he soaks corn in a solution of strichnine, and puts it into the stone heaps, under the stumps, &c. For foxes he poisoned fresh meat with it, and killed crows with the soaked corn.

## PROFITS OF AGRICULTURE.

The *Plow, Loom and Anvil* gives the following estimates of crops raised in various parts of the country. These are given not as instances of what is *possible* under high cultivation for a single season, but as actual crops raised without any special effort:

The following is a statement of the farm products of a farm in Mendon, N. Y. The sum total gives a profit of 21 per cent, on the capital invested. The field is nine and a half acres in extent. It contains thirteen apple trees.

The expenses were:

| | |
|---|---|
| Manuring | $50 00 |
| Six days' plowing | 12 00 |
| Harrowing | 3 00 |
| Marking | 2 00 |
| Ten days' planting | 10 00 |
| Twelve days' cultivating | 18 00 |
| Ten days' hoeing | 10 00 |
| Seed corn | 2 00 |
| Seed potatoes | 2 00 |
| Digging potatoes | 3 00 |
| Picking Apples | 3 00 |
| Cutting up corn | 8 00 |
| Husking corn | 32 00 |
| Repairs on fence | 8 00 |
| Plaster | 3 00 |
| Interest on land | 66 50 |
| Total | $232 50 |

The products were:

| | |
|---|---|
| 1,050 bushels corn, at 28 cts. per bushel | $294 00 |
| 105 bushels potatoes | 32 00 |
| 130 bushels apples | 20 00 |
| 4 bushels turnips | 1 00 |
| 23 loads stalks | 69 00 |
| 10 load pumpkins | 10 00 |
| 2½ bushels beans | 4 00 |
| 8 bushels black walnuts | 2 00 |
| 1 bushel walnuts | 1 00 |
| Total | 433 00 |
| | 232 50 |
| | $200 50 |

The prizes awarded by the Agricultural Societies in the State of Connecticut were, for crops raised per acre, as follows:

| | | | | |
|---|---|---|---|---|
| A. Hart, Cornwall | 936 | bush. | carrots | per acre |
| A. Wadhams, Goshen | 1344 | " | " | " |
| A. Beecher, Bethlehem | 1416 | " | " | " |
| T. S. Gold, Cornwall | 1184 | " | ruta baga | " |
| J. T. Andrew, W. Cornwall | 1660 | " | " | " |
| J. T. Andrew, " | 2102 | " | long turnips | " |
| C. Post, Hebron | 106 | " | shelled corn | " |
| J. L. Phelps, West Cornwall | 105 | " | " | " |

### RYE.

The following are some of the results of the most successful culture of this crop that we have noticed.

In Pamelia, Jefferson Co. N. Y., upon a clay loam 2 12-100 acres of land produced 94 bushels of rye. It had been well manured with stable manure, and a hundred bushels of lime per acre. It was plowed in the fall of 1853, sowed in the spring with spring wheat, plowed in August, and sowed with rye in September, two bushels to the acre, without manure. It was harvested 15th July 1854.

The income was:

| | |
|---|---|
| 94 bushels, at $1 per bushel | $94 00 |
| Straw sold for | 22 00 |
| Total | $116 00 |

The expense was as follows:

| | |
|---|---|
| Seed | $4 00 |
| Plowing, sowing, cultivating and harrowing | 5 50 |
| Cutting, binding, drawing, thrashing and cleaning | 18 50 |
| | 28 00 |
| Profits | 88 00 |
| | $116 00 |

In Hillsdale, Columbia Co., N. Y., rye was sown upon 3 acres 3 roods and 20 rods, in a soil which was a dark loam with some gravel. In the spring of 1851 it had been planted with corn, twenty-five loads of manure being applied before plowing. In the spring of 1852 it was sown with oats, and in September, 1852, it was sown with one and a half bushels of rye to the acre, and no manure after the corn crop. The rye was harvested the second week in July, 1853. The yield was 163 2-50 bushels of rye which was sold at $1 10 per bushel.

The income was:

| | |
|---|---|
| Sale of rye | $179 33 |
| 700 bundles of straw | 21 00 |
| Total | $200 33 |

The expenses were:

| | |
|---|---|
| Plowing, harrowing and seed | $11 80 |
| Harvesting, thrashing and carting | 27 00 |
| Interest on land at $80 per acre | 21 70 |
| Total | 60 50 |
| Profits | 139 83 |
| | $200 33 |

In Rockland, N. Y., four and three-hundredth acres of land, which had been cultivated with corn and oats, without manure except an application of lime to the hills of corn, the oat stubble being plowed under, and twenty loads of manure being spread over about 3¼ acres, were sown with 4¾ bushels of rye, the first week in September.

The income was:

| | |
|---|---|
| 91 bushels of rye at $1 per bushel | $91 00 |
| Estimate of straw | 20 00 |
| Total | $111 00 |

The expense of the crop was:

| | |
|---|---|
| Two plowings, harrowing, rolling, drawing manure and sowing | $12 75 |
| Seed at $1 | 4 75 |
| Total | 17 50 |
| Interest and profit | 93 50 |
| | $111 00 |

In Hadley, Hampshire Co., Mass., in the valley of the Connecticut, a crop of corn of fifty bushels per acre was gathered in 1853, after twelve loads of manure per acre had been applied. The land was then plowed from eight to nine inches deep, and sown with white rye, one and a half bushel to the acre. Middle of July, sixty-five and a half bushels of rye were harvested, and the straw weighed three and a quarter tons. The expenses of cultivation were $16 25; interest and taxes $15; giving cost of crop, $31 25.

Also in Hadley, Hampshire Co., Mass., three acres and twenty-seven rods of land, which had for two years been planted with Indian corn, was sown with rye. Three bushels of seed were used. About twelve loads of manure to the acre were applied with the cultivation of the corn. The account of the rye crop was set down as follows:

| | |
|---|---|
| 88 bush. and 20 qts. of rye, at $1 25 per bush. | $110 75 |
| 4 tons of straw | 24 00 |
| Total | $134 75 |

The expenses were:

| | |
|---|---|
| Plowing, cultivating, harvesting, etc | 24 50 |
| Interest at $190 per acre | 36 00 |
| Taxes | 3 50 |
| Total | $64 00 |
| Profits | 70 75 |
| | $134 75 |

In S. Danvers, Essex Co., Mass., on the farm occupied by the town's poor, consisting of a shallow, gravelly soil, seven and three quarter acres were sown with rye. The practice was to plow sward land in the fall, plowing in the manure. Four loads of manure were used per acre. In the spring the land was cross plowed, eight inches deep, well harrowed, planted with corn, potatoes, beans, etc., with about a tea-spoonfull of plaster in a hill. The next spring, three cords of manure per acre were plowed in deep, and planted with vegetables, plaster being used as before. In October, 1854, the rye was sown, eight bushels of seed being used. The grain was cut late in July, and 229½ bushels of rye, weighing 56lbs. each, were sold at $1 50 per bushel. Of the eleven tons of straw, eight were sold at an average of $16.

The income was:

| | |
|---|---|
| 229½ bushels rye, at $1 50 per bushel | $344 25 |
| 11 tons of straw, at $16 | 176 00 |
| Total | $520 25 |

This crop was charged with one-third the manure of the two preceding crops, and the account stated was:

| | |
|---|---|
| One-third manure of previous crops | $112 00 |
| Plowing, etc. | 30 00 |
| 8 bushels of seed | 10 00 |
| Harvesting | 25 00 |
| Thrashing | 48 00 |
| Total | 225 00 |
| Profits | 294 75 |
| | $520 25 |

IF you would preserve the health of your horses, exercise them in the open air every day, when not actually in use.

## HOGS; THEIR CHARACTER AND MANAGEMENT.

It is with *hogs* as with sundry great and good people—*they are not appreciated until after they are dead!* *Then* even fastidious persons have an evident liking for them. Kicked and cursed through life, and uncharitably ranked along with the most obstinate and sensual of all men, they all at once, their end having come, receive a warm welcome at the gay, festive board, and in the humblest mansions of the poor.

The *posthumous fame* of the hog will take care of itself. I stand here, my countrymen, to defend him while yet alive; to do him honor, when honor may profit him somewhat. I carry the war into the enemy's country, and I charge my clients' bad moral characters, (for I am forced to admit that even hogs have their peccadillos,) upon unfortunate relations with bad men. Col. Long, of Livingston Co., and Col. Morris, are both gentlemen; they treat their *Suffolks* well, and if I am correctly advised, they estimate them highly. If a man wrongs you, be assured he will traduce and vilify you also.

We pity the poor Israelites who are required to make "brick without straw"—but a *Berkshire* out of the *stalest* material is required to manufacture most *savory* morsels; from the odds and ends of all things he is expected to grease the wheels of society. What are his faults? "Clamorous, obstinate, always in the way, and always in mischief." *That's a lie*—hold—I forgot; I thought I was talking politics! I mean, *that's a mistake*. I saw Col. Sherwood's pigs, (how the *Colonels* do run to swine,) at Elmira last year, and in the frame of mind they were then in, I doubt if they would go ten feet out of their way for the best plum pudding that ever graced the table of royalty. Why, one of them actually refused to get up at the request of an admiring bevy of ladies, and shortly after went to sleep in the middle of a grunt. "They *squeal*, and are always getting into mischief." That's their misfortune, and not their crime—that's the breed with bristles, snouts and legs, that *run the gauntlet* for a living. They don't belong to any of the *Colonels*—their ever-present inquiry is, like that of a great orator, "where shall I go?" Rover gives them a bite on one side, and John pummels them with sticks and stones on the other, while Dorothy salutes them with a basin of hot water. If they pass through a hole into the corn field, that's an offence; if they take a walk into the garden, the cellar, or the kitchen, in search of food, and in obedience to "the first law of nature, self-preservation," that's a crime! Pray, where would you have a hungry creature go? Where there is food, of course. Give them food, secure them in the enjoyment of their just rights, and they become peaceable, law-abiding citizens. Would you have them pusillanimously crouch under "oppression, wrong and outrage?"

I'll tell you about my hogs. For the last year there has been no stain upon their character; they have lived down all opposition, and *made themselves extensively useful*. The other day I pointed Mr. Lyman Brainard, of Attica, and some other friends, to a clump of apple trees which were loaded with fruit, while the surrounding trees bore very few. "*The season* had been *capricious*." Not so; I had enclosed those fruitful trees with a fence summer before last, and within said enclosure I kept my hogs during three or four months, before the weather became very cold, and all the while they had a dry warm bed. They took whatever apples fell from the trees in the enclosure, and had, in addition, the soft and ripe apples that fell in the remainder of the orchard, not enclosed. In this way all the apples were saved, and we had a great abundance, and a dozen apple trees *were digged about and dunged* in the most thorough manner—resulting in an abundant crop of apples this year, where apples don't grow on every bush. The same plan I have pursued before. Each year I shift the fence to a new place, and so manure and cultivate a new plot of ground, and in every case I have seen a marked improvement in the trees that were honored by the attentions of the swine. Hogs, when freely supplied with apples, need little or no water, and a good breed of hogs will *grow* upon raw apples and become so *near* fat a novice would scarce know the difference. In this region of country we cannot afford to feed *corn* to hogs, unless it is ground and boiled with pumpkins, apples, or some vegetable, and then only in the winter, or to harden the pork just before killing.

In fact, *hogs are of little profit except for the work they do*. Their instincts, habits—their mental, moral and physical constitutions—are admirable! Even John Calvin did not, to my knowledge, extend his doctrine of "original sin and total depravity" to the hog. No, that good old man very properly put that plaster where it belongs—on the Hog's revilers! Will not a sow with eight pigs, (the orthodox number,) beat any "gang plough" in Christendom in turning up the sod? "Yes," say Fogy "and that is what I don't like." Yes you do. You have got the old sow in the wrong place, and like a great goose, you are blaming her for it. She was made to *plow* before Wood and Curtis were ever thought of, and there is enough for her to do on every farm. There are, or ought to be, fruit trees to cultivate—garden patches to manure and clear of worms, bugs and pernicious vermin—and all sorts of scavenger work to perform. Like some other folks, the sow is sometimes "out of her sphere," but there is always a place for her, and she is always good in her place.

Not a hog, except my friend Griffith's, has been running at large round my premises this year, and his have been here only a small part of the time. Why we have left the cellar door open, and the barn door open and divers edibles have stood round in baskets and bags untouched of *hogs*—a kind of comparative millennium seemed to prevail—and all owing to the doctrine of keeping the hogs in close confinement. Not exactly in *close confinement*, for when hogs are in a small pen you must take great pains to keep them clean, and you must bring in *much* for them to saturate—and take it out again; but if you put them on ground designed for cultivation, and in an enclosure large enough to prevent its getting muddy, you manure the soil and cultivate it with little trouble. Enclosures for hogs can be made in parts of the garden or fields, in the summer or fall, from which early vegetables have been removed; thus the urine, &c., will all be composted and left where it is wanted. A fence can be contrived, easy of removal.

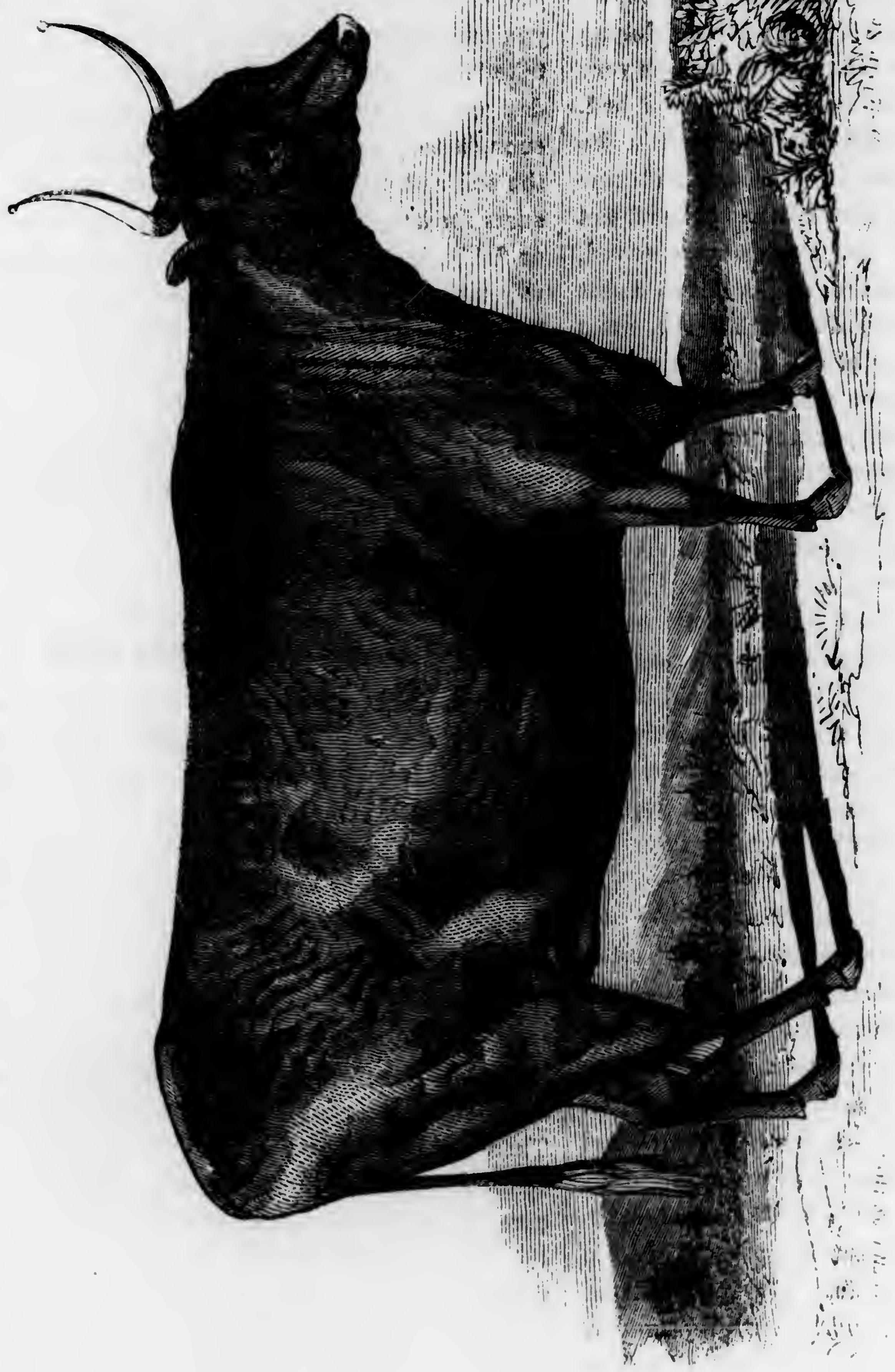
All honor to the swine. May they find friends to care for them while *living*—there are enough always to gather admiringly round their "*remains*."—*Rural New Yorker*. H. T. B.

For the Farm Journal.

## SELECTION OF SEED CORN.

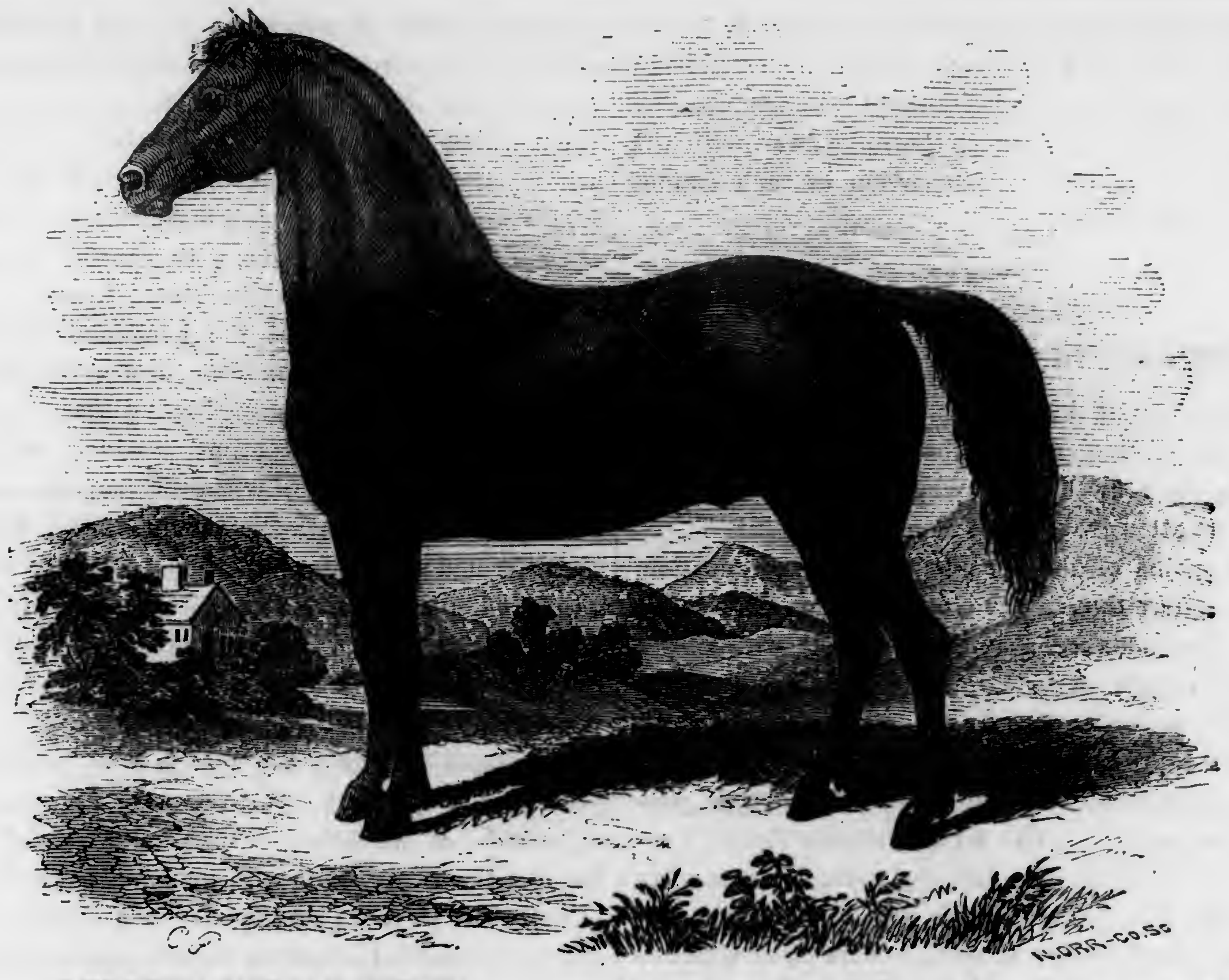
MESSRS. EDITORS:—We all remember to our sorrow, the difficulties we were called upon to encounter at our last corn planting. Almost every farmer was compelled to replant, not once only, but frequently two or three times, and in some instances failed to secure a start, even with all this trouble. Various causes were assigned for this failure of the seed to germinate. By some it was attributed to the intense cold; by others, to the unusual moistness of the cob, &c. But whatever the cause of the failure, it ought to prove a warning to every farmer, to make an effort to prevent a repetition of it next season. There is but one way to do this, and that is; first, select a sufficient number of the finest ears, taking care that they are not merely the largest in size, but the most perfectly filled, from the heel of the ear to the point. Take no ears the grains on which are loose or imperfect. Having selected a sufficient quantity, next place it where the air can have free access to it. A dry, moderately warm, well ventilated loft, is in my opinion the most suitable place. If the selection is made in the field during husking, a small portion of the husk should be allowed to remain on each ear, in order that two or more ears can be tied together, and hung up to the rafters.

If this course is pursued, I have but little fear of failure to germinate. Yours, C. R. B.



**KATE KEARNEY,**

Calved November 30, 1850; bred by Mr. William Baker, of Bishop's Nympton, Devonshire, England; imported by and the property of C. S. WAINWRIGHT, of "The Meadows," near Rhinebeck, Duchess Co., N. Y. Sire, Earl of Exeter, (38); grandsire, Baronet, (6); Dam, Roundhead, by Prince Albert, (102); G. dam Beauty, by Nelson, (81).



### LINSLEY'S MORGAN HORSES.

This is another of Saxton's excellent publications, and we are led to believe, one of the very best. We referred to it briefly in our last, and now, in accordance with the promise then made, present several of the fine illustrations and a few extracts.

Anything relating to this remarkable breed possesses an interest for every lover of hardiness, speed and endurance in horses, and the author has entitled himself to the lasting regard of every horseman for the able and very interesting volume, in which he has collected and presented the history and characteristics of the original *Justin Morgan* stallion and his progeny.

The accompanying portrait of this celebrated horse, together with the extracts, are presented to the reader, who, if he loves horses at all, will no doubt at once procure a copy of the work itself.

"The different accounts that have been circulated in regard to the origin of the Morgan breed of horses, agree that they are descended from a horse called the Justin Morgan, who derived his name from Mr. Justin Morgan, of Randolph, Vt., once his owner. As to the origin of the Justin Morgan, however, they differ widely.

"The fact that little or no interest was felt in the subject until after the death of Mr. Morgan, and indeed until after the death of his horse, will account for this diversity.

"Almost half a century passed away before any serious effort was made to determine the origin of an animal, whose value was daily more and more appreciated. After the death of Mr. Morgan the horse passed through several hands, and was kept at different places, and when at length serious inquiry was awakened on the subject, it was found that Mr. Morgan had left no written pedigree of his horse, and different reports of what he said in relation to it got into circulation.

"We think it may be considered as certain, that during Mr. Morgan's life and until long after his death, very little interest was felt in the question, 'What was the exact pedigree of the horse?' When the inquiry became interesting, and discussion arose, different stories were current, and opinions were frequently formed in accordance with previous prejudices or views of the individual forming them, as to the value of different breeds of horses. Some, holding the opinion that no valuable horse could be expected without a great deal of racing blood, sought to make it appear that he was nearly thorough-bred. Others having less faith in the English racer, entertained different opinions, and adopted for their creed stories that ascribed to him a very different origin. No person seemed to take the matter in hand and investigate it thoroughly, until those who might have given the necessary information were gone.

It is not now probable that the blood of the Justin

Morgan can ever be exactly and absolutely ascertained. We think, however, it may be considered certain that this unrivaled animal was produced by a cross of the Arabian or thorough-bred with the common stock, but the proportion of each cannot now be determined."

◆

For the Farm Journal.

## THE GROWTH OF THE WHEAT PLANT.

The following interesting paper by Cuthbert W. Johnson, of England, on the many phenomena attending the growth of the wheat plant, is worthy of the most attentive perusal:

The choice of the seed is the primary question, and it is here that in our cultivation, we deviate too often from nature. The seeds of the wild wheat, except in a few instances, are sown where they are ripened; unless carried by the winds, or by animals, they are reproduced for a series of years on the same soil, consequently the plant yields small seeds, perhaps, degenerate. The farmer avoids these ill results by changing the soil, by carefully manuring his land, and by varying his seed. He notes, too, that in this alteration of seed, certain facts with regard to the new wheat are beneficially to be regarded. Professor Buckman in his prize essay alludes to some of these, and especially to the practise of the Gloucestershire farmers: he observes, (p. 183) "The seed wheat should always be chosen from a poor soil for the seeding of a richer one, and from a cold climate for cultivation in a warmer; by acting contrary to this rule, we induce disease and a shortness in the yield. In Gloucestershire the hill farmer chooses seed from the exposed chalk Wolds or Wiltshire, while the vale farmer procures his seed wheat from the hills. But in the same manner as spring wheat may be cultivated into a winter variety, so may any kind of wheat become acclimatized by careful cultivation; this, however, sometimes entails a slight change of form; and hence have arisen tall and dwarf varieties, early and late forms, and numerous others. New varieties of wheat," adds Mr. Buckman, "are constantly becoming the fashion with the agriculturist: but it must not be concluded that this is the result of caprice, as it is the nature of derivative plants to lose some of their qualities after a long career of changes, and hence varieties are always useful as a change, and the more distinctive these are, if adapted for our soil and climate, the better."

The *variety* of the seed wheat, however, is not the only very material consideration; the prevention of disease in it has long engaged the farmer's attention. He strives, and commonly successfully, to prevent blight, by immersing the seed wheat in brine, or solutions of sulphate of copper, &c.; the beneficial effect of which he is used to attribute, perhaps with correctness, to the fact that these substances kill the minute sporules or seeds of the fungi which have attached themselves to the seed wheat, and are the origin of the parasitical fungi which constitute blight. "But my own experiments upon this subject, together with careful investigation," remarks Professor Buckman, "seem to warrant the conclusion that the beneficial action of these steeps depends upon their destroying the germinating power of malformed and diseased seeds;" and he recounts some experiments which, he thinks, show that the pickling of wheat destroys the seed so as to prevent germination when the seed is diseased or ill-formed; but that if perfect seed were always employed, no pickling is at all necessary, it being perfectly true that a diseased progeny must result from an imperfect stock in plants as well as in animals.

The depth at which the seed is most beneficially placed, is a question not in general very carefully regarded. If we follow nature here, we shall find her seeds mostly dispersed or germinating at, or close to the surface; and it has been shown, in the case of some kind of seeds, that if shaded from the direct rays of the sun, they germinate, when thus placed, better than in any other situation. As, however, with our field operations, it is not possible to leave seeds thus exposed to their various enemies, and as it is necessary to cover them with earth, the next inquiry that promises to be interesting is (still confining our attention to the wheat plant) what depth from the surface happens to be practically the best? Now the experiments of Buckman and of Petri seem to concur in placing the depth at from one to two inches, as that possessing the maximum advantage. The result of the experiments of Petri will be seen in the following table, which gives the result of sowing given quantities of wheat at different depths:

| Seed sown to the depth of | Came above ground in | Proportion of plants that came up. |
|---|---|---|
| ½ inch. | 11 days. | ⅞ |
| 1 " | 12 " | all |
| 2 " | 18 " | ⅞ |
| 3 " | 20 " | ¾ |
| 4 " | 21 " | ½ |
| 5 " | 22 " | ⅜ |
| 6 " | 23 " | ⅛ |

Here we observe that the number of seeds which produced plants decreased in number as the depth beyond one inch increased; and we well remember some experiments by which it was shown that some barley followed a similar progressive rule, until when sown at a depth of twelve inches, it entirely ceased to produce plants.

And if the depth materially influences the growth

of the seed, so also as the farmer is well aware, does the period of the year in which they are sown. But although we possess this general knowledge, yet, until the experiments which I am about to describe, we had none which gave the result of sowing the same wheat on the same soil in each month of the year. In the trials by Professor Buckman, he sowed in 1851 and 1852, red Lammas wheat in plots, on the 14th of each month, from June, 1851 to May, 1852, the results he has thus tabulated:

| | Height. | | Length of head. | Remarks. |
|---|---|---|---|---|
| 1851. | ft. | in. | | |
| June | 3 | 5 | 3 | Clean straw. |
| July | 2 | 10 | 2 | Ditto. |
| August | 4 | 1 | 4 | Ditto. |
| September | 3 | 11 | 4 | Ditto. |
| October | 3 | 10 | 4 | Rather blighted. |
| November | 3 | 9 | 4 | Ditto. |
| December | 3 | 10 | 3½ | Much blighted. |
| 1852. | | | | |
| January | 3 | 10 | 3½ | Ditto. |
| February | 3 | 6 | 4½ | Ditto. |
| March | — | | | Failed as a crop, but some ears ripened. |
| April | — | | | |
| May | — | | | |

The summing up of Mr. Buckman I have abbreviated in the following paragraph:

The winter was mild and wet—all the samples were gathered in August. One chief difference between winter and spring wheat is, that winter wheat sends out new roots and fresh fibrils in the spring, and at the same time tillers, and forms tufts, each shoot of which also roots like the central blade, and all this second growth occurs just when spring wheat is coming up. In spring wheat there is little disposition to tiller; as the growth is quick, the root has no period of rest, and, therefore, its fibres and fibrils are developed regularly, and have no fresh impulse of growth like wheat that has stood the cold of winter, and is prepared to meet the milder season of spring with an invigorated constitution, and an appetite that requires new roots and fresh rootlets to supply. It is on this account that winter wheat can be transplanted in spring with but little check to its growth, and even the tufts can be divided into slips, which is indeed a useful mode of augmenting our crop in experiments upon new and rare varieties. The seed having been sown as evenly as possible at the required depth, the following changes take place: The grain begins to obtain moisture from the soil, and consequently enlarges in size. In a few days the embryo shows a great change; it has become enlarged—the lower part soon protruding as a rootlet—the upper as a bud, which will quickly develop leaves. Coincident with this, proceed chemical changes in the cotyledon, from which the germ is supplied with its food, until the roots on the one hand, and the leaves on the other, become capable of acting—the one as purveyors, and the other as eliminators of that food with which the plant may be surrounded, in the soil and in the atmosphere, and upon which depends its after welfare. If wholesome food for the plant be in the soil, it progresses favorably: if the reverse, disease or death will be the result. If the supply of these be insufficient, the produce is small; if too great, we get blighted leaves and straw, with too small a proportion of corn. If bad seed be sown, we have a diseased and malformed plant, resulting in their diseased and consequently blighted grain. All this, however depends upon the air the plants get to breathe: if full of noxious vapor, they die; a small quantity of such gasses as sulphurated hydrogen, sulphuric acid gas, and muriatic acid gas, acting as a poison, and thus preventing wheat from being grown in the vicinity of some chemical and manufacturing works.

The nature of the food which the wheat plant derives from the soil, is known to materially influence the composition of the plant and the seed. Thus Hembstead long since found, by some experiments with wheat dressed with different manures, that when wheat which was grown on land without any manure, yielded 9.2 per cent. of gluten, that yielded, when dressed with

| | | |
|---|---|---|
| Vegetable matter | 9.6 | per cent. |
| Cow Dung | 12.0 | " |
| Sheep Dung | 32.9 | " |
| Night soil | 33.14 | " |

The constituents of these decomposing applications are assimilated by the plant either in the gaseous form, at the moment of their extrication or when they are dissolved in the moisture of the soil. It would seem, then, that a more extended and varied examination of the moisture of the same soils in their simple state, and when dressed with various manures, might be productive of useful results; and this has been, although but partially, accomplished by Professor Way, when he was examining the drainage waters from the rich hop-grounds of Surry and from other lands; and if we regard the composition of such drainage waters as affording a tolerably fair view of that of the moisture retained in the surface-soil, and from which the wheat plant derives at least the mineral portion of its food, then it is interesting to compare the composition of the mineral substances or ash of the wheat plant with those contained in land drainage water.

Now in the following table will be found.—I. The substances found in 100 parts of the seed; II. Of the straw and chaff of some Hoptoun wheat: (*Journ. Roy. Ag. Soc.*, vol. VII. p. 631,) and III. and IV., the matters (given in grains) contained in an imperial gallon of two (previously filtered) drain waters, from two fields on the land of Mr. Paine, at Farnham, in Surry (*ib.*, vol. XVII. p. 133:)

| | I. | II. | III. | IV. |
|---|---|---|---|---|
| Silicia | 5.63 | 69.36 | 0.95 | 0.45 |
| Phosphoric acid | 43.98 | 5.24 | trace. | 0.12 |
| Sulphuric acid | 0.21 | 4.45 | 1.65 | 5.15 |
| Chlorine | — | — | 0.70 | 1.10 |
| Lime | 1.80 | 6.96 | 4.85 | 7.19 |
| Magnesia | 11.69 | 1.45 | 0.68 | 2.32 |
| Peroxide of iron | 0.29 | 0·73 | — | — |
| " Alumina | — | — | 0.40 | 0.05 |
| Potash | 34.51 | 11.79 | trace. | trace. |
| Soda | 1.87 | — | 1.0 | 2.17 |

Here, then, we find all the chief mineral constituents of the wheat plant, in the water of a cultivated soil; and in the same land-waters were found, in each imperial gallon (*in grains:*)

| | Soluble organic matter. | Nitric acid | Ammonia. |
|---|---|---|---|
| I. | 7.0 | 7.17 | 0.018 |
| II. | 7.40 | 14.74 | 0.018 |

It is one satisfactory result of the examination of these drainage waters, that the substances they carry away from the soil are not so very material in amount as at first sight we might be led to suppose; for as Mr. Way remarks, "It is to be remembered that, as the drains are at a depth of from four to five feet, all the soil to that depth is concerned in furnishing the substances which we find in the water. Assuming that a superficial inch of soil over an acre to weigh 100 tons, and that the drains lie at only 40 inches from the surface, we shall have 4000 tons of soil subject to the solvent action of the water; and we shall find by calculation that the quantity of potash removed from the soil in the year by drainage, would be represented by the decimal '00001 per cent., that is to say, that if the whole of the soil were analyzed before and after this quantity (7lbs. per acre) was removed, there would be found no greater difference in one hundred grains of soil than the one hundred-thousandth part of a grain.

### SKIN DISEASES IN ANIMALS.

Scabies is a pestiferous disease, whether it affects the horse, the ox, the sheep, swine, or poultry, inflicting a loss not easily estimated; hence the maxim of every intelligent farmer is to avoid it. With him "prevention is better than cure," and therefore his grand disideratum is to guard against contagion. Sheep are, perhaps more subject to it than any of the other animals, arising as much from the nature of their skins and coats as from the fecundity of the *acarus ovis*, and the greater vicissitudes of the weather to which they (sheep) are exposed. Certain parts of the body are more liable to be affected than others; and so is an unhealthy skin than a healthy one. Indeed, it has been said that an unhealthy skin will itself produce *scabies* (?), but this conclusion does not appear to be well founded, for a disease dependent upon the presence of living parasites, can never arise spontaneously, but must be effected by contagion, either by means of their eggs, or the insect in some other stage of its existence.

Now from what has just been said, it will appear obvious that cleanliness, a healthy skin and state of the body, and a separation from foul animals and ground, are the means necessary to avoid contagion. —*American Veterinary Journal.*

### ONLY ONE DOLLAR!

*Only One Dollar* is the annual subscription price for the Farm Journal. A glance must satisfy every man at all familiar with publishing, that it is one of the cheapest, as it is one of the very handsomest Journals published in the United States. Send in your dollar, friends. If a dollar is too much, go to work and get up a club. You can do it readily, and save something for yourselves and friends. See our club list.

### ANNUAL MEETING OF THE STATE SOCIETY.

It will be remembered that the Annual Meeting of the State Agricultural Society, will be held at Harrisburg on the 20th of January, and that it is highly desirable that there should be a full attendance of members from every part of the State. Business of importance will be presented for the consideration of the members, and it is only proper that such consideration should be given it, as will result in the advancement of the best interests of the Society.

Generally speaking, the attendance of members from the various sections of the State has been very slim, and the sessions of the meeting have consequently been of a few hours duration, or sufficiently long to elect new officers, hear the reports of a few committees, the Treasurer and Secretary. We should be pleased to have the sessions continue for several days in order that discussions might be had, which could result only in good to the general interests of agriculture. It is well known that such discussions are always beneficial, and in many cases constitute the life of a society. We, therefore, repeat the hope that there will be at Harrisburg on the 20th of January, not only a full attendance of members, but that the proceedings will be enlivened by a series of discussions.

## Horticultural.

### PEABODY'S NEW SEEDLING STRAWBERRY.

We have received a colored portrait of this remarkable strawberry, which in point of size, at least, is ahead of all competitors. But Mr. Peabody asserts that in point of flavor, it is fully equal to Burr's New Pine. It is a hermaphrodite, being a cross of the Ross Phœnix, with a wild strawberry of Alabama. It is represented as a hardy and vigorous grower, and a very prolific bearer. An idea of the luxuriance of its growth may be had from the fact that a half bushel measure is not large enough to cover some of the single plants.

It is proposed to get up a subscription of five thousand shares, at the rate of five dollars per dozen plants. (We would remark *en passant* that this is a large price, but if the fruit is what it is represented, no lover of the strawberry will refuse to pay that sum for a dozen plants.) As soon as this number of subscriptions is made up, Mr. Peabody will notify each subscriber, when the money may be mailed, and the plants will be immediately sent by mail, packed in moss and oiled silk. As some persons may be inclined to doubt whether the plants will carry safely by post, we would remark that they will go as safely as a letter, and much more speedily than by any other method of transportation. We should be pleased to forward subscriptions for any of our friends, but as the whole matter may be done by post, we advise every one who is desirous of securing plants, to address Mr. CHARLES A. PEABODY, *Columbus, Georgia.*

### CATAWISSA RASPBERRY.

We have before spoken of this valuable Raspberry. It is a new, ever-bearing variety, resembling in its growth the Ohio ever-bearing. Its fruit is red, tender and pulpy, and the flavor decidedly superior to the Ohio, which is black, lacking both pulp and sweetness.

The original of this plant was discovered in the little grave yard near the Quaker Meeting House, in the village of Catawissa, Columbia County, Pa. The person who had charge of the grave yard, discovered the plant while mowing the grass. It was bearing fruit at the time, though at an unusual season. Struck with the fact, he spared the plant, and afterwards removed it to his garden.

"The fruit is of medium size, not equal in quality to many of the new spring varieties, but from its tendency to bear during the latter part of the season, will render it a novelty of some value to the amateur. Its color is a dark reddish or nearly purple, when ripe, and of good flavor. It is said to bear most abundantly through the season, after the young wood, on which it produces its best fruit, attains a height of four or five feet, usually beginning to ripen in August, but sometimes much sooner. The fruit is produced on branches continually pushing out from all parts, successively appearing in its various stages of growth from the blossom to perfect maturity."

It requires a rich soil, and well trenched, in order to give a strong growth to the plants, and guard against drouth. In other respects, its treatment should be the same as with other varieties of the Raspberry.

The Catawissa Raspberry can be procured in almost any of the nurseries now.

Hovey's Magazine of Horticulture for November, thus notices two varieties of our native grapes:

THE DELAWARE GRAPE.—This new grape which has attracted considerable attention, and which we gave a full account of in a late number, has fruited in the garden of Mr. E. A. Brackett, of Winchester, Mass. The grapes were fully mature Sept. 15th, thus proving it to be as early as the Concord. It promises to become a popular variety, and particularly adapted to our New England climate being entirely hardy.

THE CARTER GRAPE.—This is the name which is given to a new variety cultivated in Milford, Massachusetts, and recently shown at the annual exhibition of the Massachusetts Horticultural Society. It is a very fine grape, earlier than the Isabella, and superior to it in every quality. The berries are round, of large size, and of a deep reddish color, approaching to black at full maturity. What its origin is, we do not know, but if it can be traced we shall give a full account of it at another time.

### LILIUM GIGANTEUM.

A lily, the *Lilium Giganteum*, is making a great sensation among the English gardeners. It grows ten or twelve feet high, the flowering portion measuring twenty inches, and bearing eighteen superb flowers, somewhat resembling the common white lily, excepting that they have a deep purplish tinge along the inner edge of each division of the perianth, and measuring five and a half inches across the mouth of the tube.

## THE CULTIVATION OF THE HYACINTH.

U. S. PATENT OFFICE, Dec. 8th, 1856.

*Hon. Wm. Smith, House of Representatives.*

SIR:—As you request me to give the best mode of cultivating the hyacinth, I can do no better than to furnish you with that practised in Holland, which I obtained when in that country from one of the most extensive florists at Haarlem.

It is well known that, from long experience, the Dutch have brought the culture of this flower to a perfection unsurpassed by any other nation, which is attributed in a degree to the natural condition of their soil and climate. In ordinary seasons the hyacinths are in full glory between the 20th and 30th of April. The bulbs are planted in autumn, usually in beds four feet wide and of considerable length, raised six inches or more above the natural surface of the soil. The seeds and ends of the beds are supported by planks about an inch and a half thick, and nine inches deep. These marginal boards are placed on the surface of the natural soil, having alleys about three feet wide between the beds. The prepared soil for these beds is renewed annually. After the bulbs are lifted in summer the compost in which they grew is removed to the depth of the boards, or a little more, and the sub-soil is again dug over. (The natural soil here it may be remarked, is well adapted for receiving the extreme fibres of the roots; otherwise an increased thickness of compost would be required.) A new layer of compost of equal depth is afterwards introduced, and in this the choice bulbs are again planted in autumn. The compost consists of pure white sand, rotted leaves of trees, old tanners' bark, and well-rotted cow-dung; the whole of which is thoroughly intermixed and reduced by being often turned over in the following proportions:

| | |
|---|---|
| Fine white river and pit sand, | 1 part. |
| Well rotted leaves of trees, - | 1 " |
| Old tanners' bark, - - - | 1 " |
| Rotted cow-dung, - - - | 1 " |

The sand is similar to that which is ordinarily used for scouring floors; the bark is that which has been employed by the tanners, and laid in a heap at least for a year.

Those who have only a heavy soil and cannot conveniently procure such materials as sand and rotted leaves may supply the deficiency by mixing one-fourth of the soil with one-fourth of thoroughly rotted tan bark; and those who cannot readily procure the tan may increase the proportion of sand or of rotted leaves, as either of these materials may supply the deficiency of the other two.

Let it be observed that it is important to proportion the quantity of these light materials according to the strength or looseness of the soil. The heavier or stronger it is the less cow-dung must be used.

Wet or dampness being the most destructive agents that can happen to the hyacinths, great care is taken to protect them by choosing the most elevated spot in the gardens, which, if surrounded by a shallow trench, it is regarded all the better. When the soil is prepared as pointed out above, it is very light, and is consequently liable to absorb those rains and snows which fall from November till March, and particularly affect the bulbs, which at that season push down their roots to the depth of fifteen to twenty inches, their extremities becoming immersed continually in water if not drained off, causing the roots to putrefy, and thereby communicating a fatal disease to the bulbs, or at least rendering the flowers poor and small. The bulbs become thin, and when taken up are found to be shrivelled and all in scales. To prevent accidents of this kind, in case of heavy rains or melting snows, the cultivators give vent to them either by making descents to drain them off or by small trenches dug round the beds.

## THE JAPAN PEA.

SIR:—The extensive circulation of your paper makes me desirous of calling through it, the attention of agriculturists and others to the merits of the Japan Pea, or Cajanus Bicolor. It is a native of the East Indies and Japan, and has had but a limited trial among agriculturists here yet, but still enough to demonstrate its perfect adaptation to our climate and soil; its great productiveness, its excellence and wholesomeness as an article of diet, and its easiness of cultivation. I have sold all that I have raised the present season at $4 50 per bushel, and think they have been more profitable than three crops of Indian corn.

They may be planted about the same time as corn, and well adapted to field culture in rows two or three feet apart, and about a foot apart in the rows; they do not require a very rich soil, and forming a stiff bushy stem, they need no poles to support them. They are also free from bug so common among other peas, and are fit for house use all the year round; they appear well adapted for ship's stores, for which they are used by nations that cultivate them, and I would recommend a trial of them for the use of the military and naval departments of the government, as occupying much nutriment in a small space, and requiring no other preparation for cooking than soaking about 24 hours in cold water.

Yours,

CALEB W. PUSEY.

*Forestville, Chester Co. Pa.*

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## ECONOMY OF THE STABLE.

The following remarks of a correspondent of the *Rural New Yorker* will be found of importance to those employing horses, and who consider the condition and consequent welfare of the animal:

"To the successful performance of labor required from draught animals, health is a pre-requisite, and to its preservation, judicious feeding, both as regards *quantity* and *quality* of food, is an essential. This is *the* point which should receive the serious attention of agriculturists, as so much depends upon having, at specific times, the animal system strengthened and fitted to prosecute with energy the routine of farm work.

As food for draught horses, oats are placed in the front rank, and it is customary to feed a certain amount, *by measure*, to those performing hard work. All that seems to be required in the grain is brightness of color, purity of scent, freedom from dampness or mold; and should these externals be satisfactory, the examination closes. But the item of paramount importance has been overlooked—*the nutrition of the oat lies in the meal*, and its consequent value depends upon its weight per bushel. A material difference will often be found in samples which to the hand and eye appear identical.

The following table, showing the quantity of meal which in ordinary seasons is generally obtained from this grain, will exhibit some of these peculiarities:

| Oats. | Meal. | Husk. |
|---|---|---|
| 42 lbs. | 25 lbs. 2 oz. | 16 lbs. 14 oz. |
| 40 " | 23 " 6 " | 16 " 10 " |
| 38 " | 21 " 12 " | 16 " 4 " |
| 36 " | 20 " 3 " | 15 " 13 " |
| 34 " | 18 " 11 " | 15 " 5 " |
| 32 " | 17 " 5 " | 14 " 11 " |

It will readily be perceived from the above, that the animal fed upon grain of the last description, loses almost one-third of the nutriment to be gained from the same amount (by measure) of that of the first class, and, as a consequence, will not be in as good condition or capable of performing the amount of work that would result from more careful treatment and superior provender.

For the winter feeding of horses, and for the road, oats are not only unnecessary, but careful experiment has demonstrated that various roots and grains are much to be preferred. An account was published in the *Sporting Magazine*, by Dr. Sully, an experienced horseman, in which was given his mode of feeding, after repeated investigation of many years. His horses were constantly in use, driven singly, upon long journeys at rapid pace, and were kept in perfect health and excellent working order. The food for his horses was divided in four classes, the ingredients in most cases the same, but differing in quantity of each, used according to the amount of labor performed. The ratio was as follows:

| | 1st. | 2d. | 3d. | 4th. |
|---|---|---|---|---|
| Beans, peas, or corn, ground.. | 5 lbs. | 5 lbs. | 10 lbs. | 5 lbs. |
| Hay, cut.................... | 7 " | 8 " | 10 " | 8 " |
| Straw, do.................... | 7 " | 10 " | 11 " | 8 " |
| Potatoes, steamed............ | 5 " | 5 " | 0 " | 0 " |
| Oil cake.................... | 0 " | 2 " | 0 " | 2 " |
| Brewer's Grains............ | 6 " | 0 " | 0 " | 0 " |
| Bran.................... | 0 " | 0 " | 0 " | 7 " |
| | 30 | 30 | 30 | 30 |

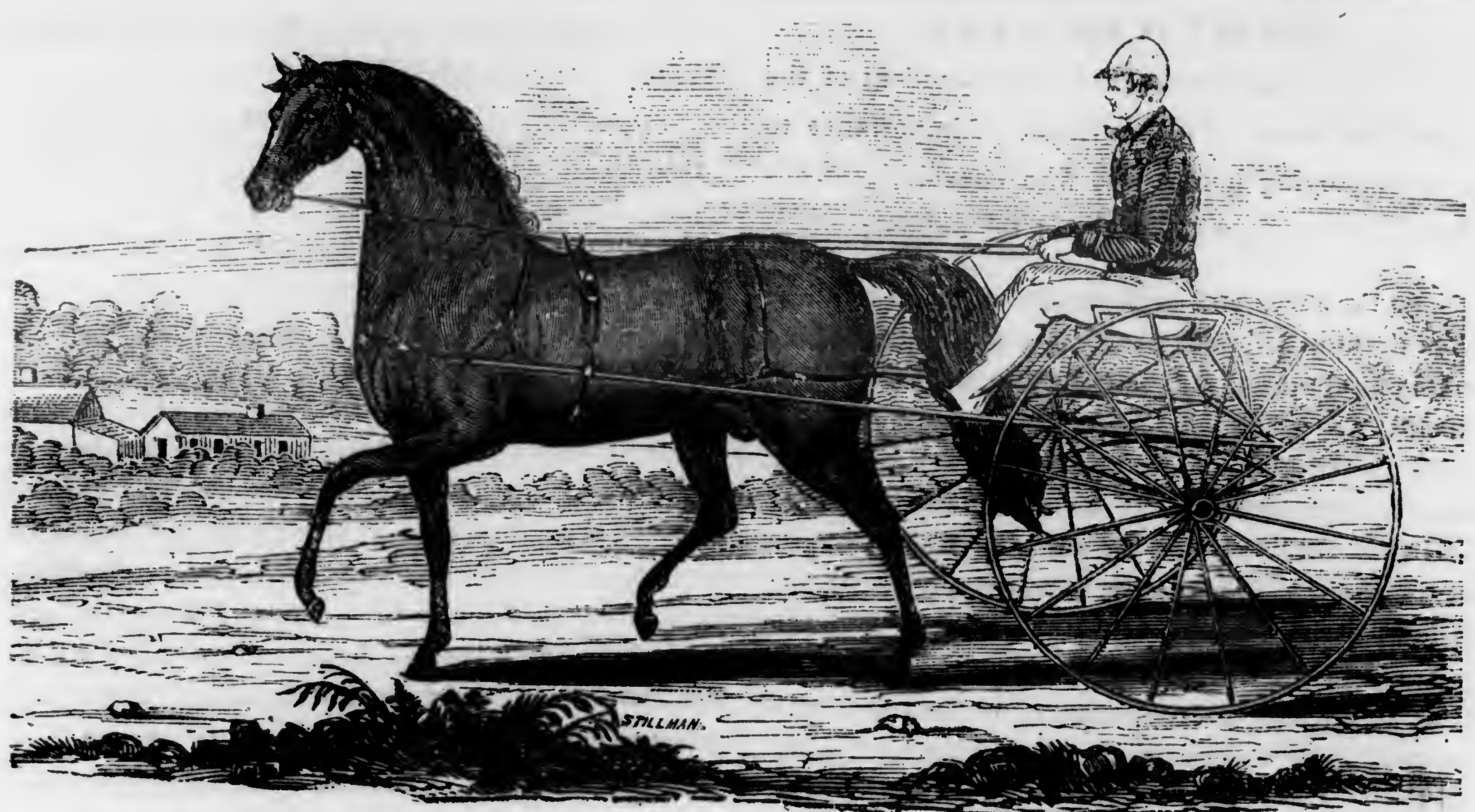
2 oz. salt to each mess.

The weight of each class was equal, and the elements of nutrition were supposed to be the same in each, yet his greatest success was derived from the first and second classes. The peculiar developments of these two were a clear, bright eye, a healthy, mellow, clean skinned hide, without much fat, and a general appearance of health. Carrots, if fed to our horses with their usual allowance of good hay, will produce the same results. From one peck to half a bushel, as judgment may direct, and use require, will be found to benefit the animal.

## COWS FOR THE DAIRY.

There are certain points in a milker, that can hardly be mistaken. She should be descended from the best milking stock; her head should be small, of medium size, muzzle fine, and nostrils expanded and flexible; face long, slender and dishing; cheeks thin; eyes full, mild and prominent; horns delicate and waxy, and they may be either branching, lopped, crumpley or hornless; long, thin, lively ear, and the inside of an orange color; neck, thin and small at its junction with the head; deep chest, but not too heavy before; back level and broad; well ribbed; belly large, low flanked; wide thighs, but thin; short legs, and standing well apart; large milking veins, loose capacious udder, coming well out behind; good teats; loose mellow skin, of a deep yellow; and a fine thick coat of glossy hair; and she must be of a good disposition, and perfectly free from tricks.

Yet, with all the skill of a well-practised taste in the selection of animals, the dairyman will frequently find his theories and results at sad variance. One may sometimes select a fine animal, with every appearance of good milking qualities, which is but a medium cow at the pail; another, that hardly seems worthy of notice, and which sets at defiance many established milking points, and all pre-conceived notions of symmetry, may yet be a good milker. A cow that runs to flesh, while in milk, is generally an indifferent animal for the dairy. Perfection in a cow consists in converting all she eats into milk while yielding it, and when dry, in turning all she consumes into valuable meat.—*Arator.*



## CHAMPION BLACK HAWK.

In the account of the agricultural fair, at Florence, Kentucky, in October, 1855, published in the *Cincinnati Gazette* of October 13th, 1855, is the following description of the exhibition of stallions for harness:

"THE FAIR AT FLORENCE.—Yesterday was the day for the exhibition of horses. In the ring of stallions for harness, of four years old and upwards, the blue ribbon (highest premium) was tied on a dapple grey; but just then Champion Black Hawk, belonging to Messrs. P. & L. Melendy, of Hamilton County, Ohio, was brought in, and the multitude immediately shouted, 'take it off,' 'take it off.'

"It was accordingly taken off and put upon Black Hawk, and no judgment of the committee was more heartily approved by the spectators than this. Champion Black Hawk is of the Morgan stock, and closely resembles old Green Mountain Morgan in size, build and carriage. He is a small horse, but compactly built, indicates power and endurance, and in horseman phrase is 'big for his size.'"

## HOW TO MAKE GOOD BUTTER.

A correspondent of the New England Farmer furnishes that paper with the following rules for making good butter:

1. Milk should never be set for butter in a dark, damp cellar—as is the case with butter makers in this section—as the cream is thereby moulded before it has had time to rise, which gives the butter a mouldy taste.

2. The milk is allowed to set too long before being skimmed, which gives it a cheesy taste.

3. The cream is kept too long before it is churned, after it is skimmed, which gives it the taste of the other two; and also a sour taste.

4. The butter should never be washed in water, because it takes away that beautiful aroma so essential to good butter.

5. It should never be taken in a person's warm hands, as the heat melts a certain portion of the globules, which gives it an oily taste, and makes it become rancid very soon.

6. The milk should be set in good clean tin or earthen pans, in a dry, open, airy and shady place, above ground, if possible, although a cellar may be so built and ventilated, as to answer the purpose. It should never set over twenty-four hours, in warm weather; and for a dairy of three cows or over, the cream should be churned every morning, and never be kept over forty-eight hours, in warm weather; in cold weather it may be kept longer.

It should always be about the same heat that milk is when drawn from the cow, and churned steadily, and I have never known it to fail of coming readily; (we use a cylinder churn;) it is then taken from the churn with a wooden butter ladle, into a wooden tray which has been well scalded and cooled in pure cold water; the salt is then worked in, to suit the taste, with the ladle, which is easily done with a little practice, and the buttermilk well worked out; it is then set away in a cool place for about twenty-four hours, when it is well worked over again, as long as milk or pickle can be worked out. Butter made in this way, and put down in stone pots, and kept from the air, will keep good for a long time.

For the Farm Journal.

## DAIRY MANAGEMENT.

### FEEDING COWS FOR BUTTER—NEW VIEWS.

BY J. S. HOUGHTON, M. D., PHILADELPHIA.

The true art of feeding animals, with a view to produce flesh, bone, fat, power of endurance in labor, speed of motion, or mere bulk and weight, is a very nice and complicated study, and requires for its exact elucidation not only an intimate knowledge of chemistry and physiology, but many and careful practical experiments.

The common and almost universal opinion among both scientific and practical men has been, that new butter was to be expected from cows fed freely with substances containing starch or sugar, (starch in the process of fermentation or change being converted into sugar,) or with substances of a carbonaceous or oily nature, as corn meal, linseed meal, and the like; for the reason that such substances aid the formation of fat in the animal organism, or prevent its removal even in cold weather, when once deposited. Hence potatoes, being composed largely of starch, sugar-corn fodder, molasses, Indian corn, linseed meal, malt, (barley in a state of change into sugar) have been relied upon in dairy management as the chief agent for the production of butter. These substances were not, of course, used alone, but in conjunction with hay, roots, corn fodder, &c.

But a new and most important scientific and practical fact has recently been developed in England, in regard to the economy of the dairy, where butter is the main object, by the experiments of Dr. R. D. Thomson, lecturer on chemistry in the University of Glasgow, which were undertaken, it appears, by order of the British government to ascertain the relative butter-producing qualities of barley, malt, molasses, linseed meal and bean-meal, employed in various combinations, with the addition of good hay to furnish bulk of food for the stomach of the cow, as well as nutritive and fat forming elements.

In these experiments, which were very carefully conducted, bean-meal and hay produced more butter than any combination of the other articles of food above named. "These facts," says Dr. Thomson, "are not agreeable to the common opinion that the amount of butter afforded by a cow, is a test of the amount of oil contained in the food; and hence we are not entitled to recommend oily food as preferable, for the production of butter, to food which experience teaches us will accomplish this object though less rich in oleaginous matter."

Bean-meal is set down by scientific men as chiefly a nitrogenous or flesh forming food, closely allied in its nature to the egg, the oyster, lean mutton and beef in animal life, and to cabbage and the cereal grains in vegetable life.

Dr. Thomson explains the unexpected value of bean-meal, as a butter producing agent, by suggesting that it contains not alone the flesh-forming or the fat-forming substances, but "the actual constituents or *milk* and *butter* in the proper proportions," especially when given with hay, which is similarly organized.

A moment's reflection will show that this remark is a sensible one. The cow, even when confined in the stable, (as was the case in the experiment above alluded to) being irritated by flies and other causes, exerts her muscular powers to some extent, and hence a waste of the nitrogenous part of the body, (lean flesh.) Again, in all milk there is casein or curd, (the cheese-forming substance, closely allied to animal flesh,) without which, of course, perfect milk containing butter, cannot be produced. Now, says Dr. Thomson, "bean meal restores the waste of the animal system, in the cow, while producing milk, in the proper proportions," and hence the quantity of butter will not only be relatively greater, under the use of such food, but the cow will be kept in better general condition.

I will not here attempt to give the details of the experiments of Dr. Thomson. Those who wish to inform themselves fully upon the subject will find it useful to consult the entire report "On the Food of Animals," published by C. M. Saxton & Co., New York. I will only add, that the work is so strictly scientific it will probably prove interesting only to those readers who are already familiar with the leading principles of physiological chemistry.

The scientific investigations of Dr. Thomson have received interesting confirmation, as to the soundness of the leading principle, from another series of experiments of a practical though highly intelligent and somewhat scientific nature, made by a member of the Royal Agricultural Society of England, and now in course of publication in the Farm Journal. The first part of this Report was inserted in the October number, and will be continued, I am informed, in the present number.

It will be seen from that Report, that a mixed diet is recommended for dairy cows, where the object is to keep the cattle in the best possible condition, consisting of bean straw, oat straw, hay, wheat, bran, bean-meal, turnips, cabbage and rape-oil-cake. In the production of butter, the highest value is given to bean-meal and bean straw, and rape-oil-cake, which last is similar to linseed cake. The superior influence of the bean-meal and bean straw, in contrast with linseed cake is especially worthy of notice.

Now leaving every reader to study that Report or himself, I come to the important practical deduction to be made from these new views in reference to feeding dairy cattle. The common idea is, that dairy stock can only be sustained on the richest grass-growing and grain-producing land, and that poor, sandy soils are unfit for dairy farms. Science and experience now tell us a different story.

Upon the theory and practice here advanced, common meadow hay or clover, corn fodder, bean straw, (bean vines,) rye bran, (which last is oily,) turnips, carrots, parsnips, and if you please, a little Indian corn meal, would furnish food for dairy cattle capable of producing the greatest possible quantity of butter, and keeping the cows in the best possible condition as respects flesh and fat.

All the substances here presented, as food for dairy stock, can be grown upon sandy soils, such as we find in New Jersey, Delaware, Maryland, Virginia, &c. And upon worn-out farms, where there is usually some low land, or meadow, or even without soil containing much vegetable matter, by the use of small quantities of artificial manure.

There are no soils so poor, (even the worst flowing sands of New Jersey,) that will not produce beans, or their equivalent the cow pea, or field pea, now so much employed in the South as a renovator of exhausted soils. Beans or field peas can be produced on such soils in profitable abundance without manure, but still better by the aid of lime, plaster of Paris, guano or super-phosphate of lime. The field pea, (which is in reality a bean) gathers much of its vegetable matter and probably nitrogen from the atmosphere, (especially when aided by plaster) and its various inorganic salts, (mineral substances) from the subsoil, being a vigorous grower, and sending its roots far and wide and deep into the earth in search of food. It rarely suffers from long continued dry weather, and will remain green and healthy at a time when corn leaves are curled up as if burnt with fires. In ninety days, it will make more fodder per acre, than a first rate crop of clover of the second year's growth. Its grain as will be seen from the experiment alluded to, is equal if not superior as food for dairy cattle to any oily food, and of course far cheaper than corn meal, rape, or linseed. It may be proper to state that I have tested the Southern field pea in New Jersey, for three years, and speak of its qualities in this climate, from positive experience. It is said that on rich clay soils, it will make an excess of vine and will not mature its seed. It should be planted as early as Indian corn, sown broadcast for fodder, and in drills for seeds. Seed may be obtained from a broadcast crop. It requires about two bushels of seed per acre broadcast, less for drills.

If meadow hay cannot be obtained on a sandy soil, clover can, after turnips or field peas. Rye also grows profitably on sandy soils, especially after a green crop of peas turned under. Few soils are so poor as not to produce corn fodder, or they may be made to do so by the aid of a green crop, or a little guano, or nitrogenized super-phosphate of lime. Turnips, carrots and parsnips are readily produced, in immense abundance on sandy soils, by the use of super-phosphate of lime alone, or even ground bones. These root crops, indeed, with the field pea, form the basis of good dairy food for a sandy soil; and with their use, clover, timothy, herd grass, orchard grass, corn fodder will speedily be produced, if the manure of the cattle be carefully and properly saved and judiciously applied. The red Indian corn and wheat even, may soon be produced, at a profit, by such management.

The bean straw or vines, it will be observed, were steamed before being fed to the cows, in the experiments of the Royal Society; and much of the other food was also steamed or cooked. Dr. Thomson it is presumed, fed the bean meal in the raw state. Bean straw is a harsh dry food, unless steamed or soaked in hot water.

If the dairyman on a sandy soil, had no pasture at first, it would follow, under the system of management here suggested, that he would be compelled to keep his cattle constantly in the stable, after the method called "soiling," feeding them in the Spring partly upon dry hay, and partly upon green oat or rye straw, green corn fodder &c., (or dry fodder if he had it,) until such times as pasture could be produced upon restored land. This it is presumed, could not profitably be done, except near large cities, where milk and butter were easily marketed, and sold at retail prices: but in such instances it could be done with profit, if the soiled and liquid manure were all properly saved and mixed with muck or leaves, or only sprinkled freely with plaster of Paris, as the rapid improvement of the land would pay the extra cost of stall feeding over the economy of pasturing with the loss of manure consequent upon the latter method of feeding. To say the least, the article here referred to, and the views which I have presented, afford many valuable suggestions to the dairyman, which he may improve to much advantage whether located upon a sandy barren soil, or upon one more favorable to the production of grasses and Indian corn.

I will take the liberty to add, that although I have had no practical experience in feeding cows, yet my knowledge of chemical and physiological principles, and my investigations into the subject of human food, long ago led me to believe that the oily food in large proportions, was not so highly important in feeding milking-cows, as was generally supposed, and that a butter-producing food of the best quality could be obtained from a sandy and worn out soil with positive profit. In the Farm Journal for December 1854, I published an article on the uses of the field pea, as food for milking-cows, in which I remarked in conlusion, as follows:

"I think pea vines and corn fodder, served as cut food for milch cows, in winter, with a little corn and pea meal, would furnish an admirable and highly economical food; and if to these articles, carrots and parsnips would be freely added, it would leave nothing to be desired by the milkman, or the maker of butter or cheese. The only thing I can think of, which it would be desirable to purchase occasionally, where butter was the object, is oil cake if it could be cheaply obtained."

In the above remarks, nothing is said of hay, clover, rye or wheat bran, because the object was to show how butter could be produced, with the least variety of food, upon a sandy or poor soil. The more varied the food, and this more frequently, (within reasonable limits,) appropriate changes are made in the food of dairy cattle, especially when stall feeding alone is practised, the better is the result, as every dairyman probably knows. After a special food has been given for two to four weeks, any proper change of food will immediately increase the quantity of milk and butter.

Another advantage of the bean fodder and bean meal diet as compared with a food largely oily, is this, that while the cows will be kept in good general condition they will not become too fat to yield milk freely.

The whole subject is one of great interest to the cultivators of poor soils, who wish to keep stock and make manure and avoid being ruined by the guano dealers.

*Philadelphia*, *Dec.* 1856.

## AUTUMN AND WINTER CARE OF SHEEP.

The following timely notes on this subject, communicated to the *New York Chronicle*, by Gen. R. Harmon of Wheatland, may be read with profit:

"Much depends in successfully managing sheep upon keeping them divided into lots of the same age or condition. Lambs and small yearlings should be by themselves for several weeks before they are brought to the barn to winter. They should be kept on the best of feed, and feeding-boxes should be placed in the field, and every day filled with mill-feed or oats, in the proportion of one peck to fifty lambs, and they should be furnished with salt twice a week. They should be made so tame that they will come and eat out of a dish or out of your hand. Lambs are more easily made tame than older sheep. The tamer they are, the easier they are kept.

"At this season of the year the grass has lost some of its nutriment, and lambs will not keep in good condition without some extra attention; and if they come to the barn thin in flesh, and we then begin to feed them on grain, it will be very apt to bring on the scours; and if that disease once takes hold of a flock of lambs, it will prove fatal to many of them.

"For winter management there is a difference in opinon as to how much space they should occupy. I have found my lambs do best when they cover one-third of the yard or shed. Lambs should be fed under cover, and never suffered to be out in any storm; moist snow or rain is very injurious to them. Lambs that are housed through the winter will give one-quarter more wool with the same amount of feed. A trough and rack combined for feeding, I have found most convenient, so that hay, grain, and roots may be fed out in the same place. Lambs of the merino stock should be so wintered that the average weight of fleece should be five pounds, and the farmer whose lambs come short of that, should improve his stock or feed. If lambs are left to suffer the first year of their growth, it is hard to overcome the loss in after years. When they are kept housed they should be furnished with fresh litter every day; in so doing, they will be kept clean and healthy, and make more and better manure than when left to run in an open yard.

"The rack that I have found most convenient, is made as follows: take three set of legs, for a rack twelve or fourteen feet long; scantling, three inches square, twenty-two long, halved together, so that the upper ends will be twenty-four inches apart. Put into them two boards, one twelve inches wide, and one thirteen inches, which makes a trough. One inch from the top edge of the board, bore inch holes eight inches apart, put the rack sticks in the holes, which shall be two feet long. They may be made of pine, cedar, or any timber which is most convenient. Put on the top of the sticks a board three inches wide, with braces at each end, and you have a rack or trough that sheep will feed from, and not waste their food, nor fill their wool with seeds and hay. They will put their heads between the sticks on each side of the rack, and eat without crowding each other or getting into the trough.—These racks will more than pay their cost in a single winter. Of all the various contrivances for sheep-feeding that I have ever seen, these are the most convenient and easily made. They are light and readily moved from one place to another, and a yard can be quickly supplied with a rack of this kind. For feeding bucks or horned sheep, the sticks will not be used. A board at each end, raised about twenty inches, and another in the centre with a narrow board laid on, will keep the sheep from getting in the trough.

"The farmer who lets his sheep run in the open yard, and scatters their food on the ground, or in the mud, to be trodden under foot before it is half eaten, and shears two to three and a half pounds of wool from each sheep, may say that sheep keeping is poor business, and will not pay; but if sheep are well provided for, there is no stock that will pay better for the amount of food consumed, and the attention given."

### PROTECTION OF SHEEP.

The increase in the growth of sheep, and their aptitude to fatten, when fed in a shed in an open yard, is extraordinary; and yet the principle is one which we all acknowledge, namely, everything that eats, if it has plenty of food, warm shelter, and nothing to do, must increase; but I have discovered, by repeated experiments, that such animals not only increase more rapidly in their condition and weight than those exposed to the open air, but also that they consume a much smaller quantity of food, less by at least one-third, while their increase is a third greater in weight.

At the beginning of the season for fattening, I built a shed to contain eighty lambs, covering the floor with a few planks, thinking this better than to give them straw to lie on, for when wet, this is apt to give them the foot-rot. I brought in my sheep, at Christmas, and found that before the end of two days they did not eat so much as when they were in the field, by the proportion of three to five, for while abroad, they ate fifty baskets full of turnips, but, confined to the yard, they ate only thirty baskets a day, therefore, their improvement was in the inverse ratio of their cost in food; yet such great progress did they make, that one would have thought they were eating fifty baskets a day while shut up, and thirty while in the field. I gave them a small quantity of oil-cake with their turnips, and the size which they attained was so great, that at thirteen months old, I sold them for $8 50 a piece, without their wool. I calculate that turnips, pulled and brought to the sheep in the sheds, will go twice as far as when consumed by them in the field.—*J. W. Childers, in Boston Cultivator.*

### FEEDING SHEEP.

The proper and most profitable mode of feeding for breeding and store sheep, is that which develops them in the highest degree of bodily vigor. Sheep fed in this manner would endure the fatigue of a long journey, while those high fed would fail from the excess of fat, and the scantily fed from muscular debility. Every wool grower will find it for his interest to provide warm, capacious and well ventilated sheds for his flocks, with a convenient access to pure water. The feeding racks should be made with good tight bottoms, in order that the chaff and seed, the most valuable part of the hay, may not be lost; such racks will also answer for feeding out roots and grain, and will avoid the necessity of having an extra lot of troughs for that purpose. The different ages and classes of sheep should be properly assorted. This classification, however, must be left to the judgment of the breeder. The size of his flock, and the conveniences for keeping, will determine the extent of the classification. It will be necessary in all flocks of considerable size, to place the strong and feeble in separate flocks.

### ENGLISH STATISTICS OF SHEEP.

The sheep of the British Isles are believed to number about 35,000,000. England alone possesses about 27,000,000; Scotland, according to the agricultural statistics of 1854, has 4,787,235; and Ireland, in 1853, had 3,142,656. Calculating the 35,000,000 as worth 30s. a head, the sheep stock of Britain is worth £52,000,000. About 10,000,000 sheep, weighing on an average, 80 lbs. each, are annually slaughtered for food. This furnishes 800,000,000 lbs. of mutton, which, at 6d. per lb., is worth £20,000,000 sterling. Professor Low estimates that, allowing for the deficient weight of the wool of slaughtered sheep and lambs, each fleece averages 4½ lbs., and the total annual produce of wool will, therefore, be 157,500,000 lbs. Fixing the value at 1s. 3d. per lb., the total yearly value of the wool of Great Britain is nearly 10,000,000 sterling. Besides this large home growth, about 40,000,000 lbs., are annually received from Australia, and about 10,000,000 or 12,000,000 lbs. from the Cape of Good Hope and British India.—*North British Agriculturist.*

### COB-MEAL FOR POULTRY.

The *Maine Farmer* gives the following hint in regard to feeding poultry with corn in winter:

"We find it good economy to grind the corn and cobs together fine for poultry. They will eat it just as well and as readily as if the cobs were not there. In this way you turn your cobs into eggs and chickens. We have this winter fed such meal out to hens, geese and ducks. We put it into a shoal trough, made by tacking together boards four inches wide, like a V, and gave it to them dry. It all disappears before them, and does them good. Hens and other poultry like to have some grass to eat, and they do better if fed during the winter with some substitute for grass, than if fed upon nothing but dry

grain. The corn-cob is somewhat like grass in its chemical ingredients. To these, cabbage, ruta bagas and apples, cut fine, may be added, all of which they will eat readily and thrive upon, if they have enough, even in mid-winter."

### CLUBS! CLUBS!!

Our friends will not fail to remember that the present number of the Journal is the first of the new volume, and that now is the time for renewal of subscription. We are already in receipt of very handsome lists, but there is yet room for more. To work then, friends, and give us the benefit of your labors for a little season. We promise you a full return for anything you may do for us. Send on your lists early. Long lists strengthen our hands and cheer our hearts.

### THE AMERICAN POMOLOGICAL SOCIETY,

Which held its last Biennial Session at Rochester, N. Y., is one of the great institutions of the country. Every intelligent fruit-tree grower; and, therefore, every tree-planter; and, therefore, all the millions of fruit-eaters, are direct beneficiaries by its operations. It is a great COURT, before which all *fruit* are brought up for trial in their proper *specimens*. Witnesses are there too, from all sections of our immense country, zealous, enthusiastic, but heedful, in so great a presence, to make no statement that cannot be safely maintained.

One fruit is brought forward at a time. Cultivators from the East, the West, the North and the South, discuss and testify to its habits, character, peculiarities and requirements. The rare, few fruits that are always and every where deserving, attain a place in the list of varieties "adapted to general cultivation." They are "bests," and their sure excellence being thus proved and warranted, they are at once sought and planted by every orchardist. If but *three* votes object to any variety, or if it is not generally known, it must remain for the present on the lower list of those "promising well." This is the list of "very goods," deserving of trial, and they are sought and planted at once, by all *amateurs* and *nurserymen*, who make it a special business to determine for themselves the precise value of fruits. These kinds come up for examination at subsequent sessions, and the worthy are promoted to the "best" list.

There is another list, composed of entirely new kinds, known to but one or two members. Descriptions of these are given, and stand in the proceedings. The most promising and interesting of them, if not all, are speedily disseminated throughout all sections of the country, and in a very few years fruiters from all quarters, will be prepared to state their qualities, and they will have *their* due position.

The immense value of this "Congress of Fruitgrowers," can be partly conceived by considering—

1. How many millions of our people like to *eat* fruit every day in the year, and what superior enjoyment there is in having of the best kinds to eat; how it promotes health, good humor, social pleasure, love of home, and of rural industry, and aids in the rearing of youth.

2. How many years, generations, even centuries, would be required for the traditional dissemination of the sorts which are now even, at once, spread over the country by the agency of this society; how many would die out before they would reach the mouths of the million, and how many of the million would die before tasting them.

3. How many acres, and how much labor would be continually devoted to the growth of poor fruits, in poor, wrong ways, for want of any means of collecting or reaching the better and complete knowledge, which this excellent society includes from all the length and breadth of the land; and condenses for the ready reference of every body in its biennially published reports of proceedings.

4. What a wide, heart-expanding privilege and opportunity it gives to those who have discovered or originated a fruit of some new, rare or special merit, to give to the entire nation,—even all civilized nations,—the immediate benefit of its enjoyment, and to receive in return, while living, the acclaim of their acknowledgments.

In these days of national union in industrial improvements, aided by the press, the engine, and the telegraph.

> *Not* "many a flower is born to blush unseen
> And waste its sweetness on the desert air."

The last Session, at Rochester, was very largely attended. An immense collection of fruits filled a vast hall, covering long tables standing upon other heaped tables, and filling every available space.

The discussions occupied six hours of each day, and three hours or more of the night, and were listened to and joined in with unflagging interest to the end. This close undistracted attention, and the admirable skill of the veteran President, Hon. M. P. Wilder of Boston, both as a Chairman and a Pomologist, secured the transaction of a great amount of true business.

Now and then sentiments of poetry or eloquence were struck out of the matter-of-fact discussions, and were received in a way that showed how sensitive the mass of the meeting; men combining the attributes of the cit and the rustic, the polish, and readiness of the merchant, with the self-reliant vigor of the farmer, were to these genial influences.

Among the many improvements developed since the last session, the most conspicuous and decided, were the additions to the lists of hardy *grapes.*—Some of the new sorts are very distinct in color, early and fairly rivaling the luscious but too tender foreign sorts in flavor. Is it the special favor with which they are regarded by cultivators, or is it the clinging support, requiring nature of the "generous vine," that induces the very general and appropriate custom with originators, of giving them feminine names? Thus we have Isabella, Diana, Rebecca, Emily, Clara, Louisa, the latter a new seedling of our own State. Several of the enterprising nurserymen of our State have secured stock of these and of other choice novelties for the mutual benefit of themselves and their customers; and they will all have a place in the complete collections, forming on the ground of the Farmer's High School of Pennsylvania.

Could not the *gardeners* of the country combine action in the same way, with as great advantage? Who, among our most widely known and experienced gardeners, will unite in a call for a convention to discuss the measure? Seeds and roots of new vegetables are advertised every season, and in order to attract attention at all, they must necessarily be so vaunted and extolled, that the very praise, coming, as it can only come from interested parties, excites mistrust. Names are changed, and lists increased, to act or counteract in business, to the entire confusion of the country cultivator.

Let us put the legumes and their brassical upon trial, and bring out the deserving. Let us learn to know beans, and what is the highest excellence among peas. Let that "best of all flowers of the garden"—the Cauliflower—come with its friends and explain to all people how its rare delicacies may be enjoyed. Let the truly good and deserving of all *seeds* have their true names and full deserts, and let the spurious, the false, and the good-for-nothing-at-all be marked, so as to be known by all men. No fear of running the thing into the ground, let the ground yield its esculents to the test, the beet, the carrot, the parsnip, the potatoe, and the deep dioscorea.

Soils, manures, shelter, temperature, culture, might be discussed under strict and judicious guidance with great advantage.

Would not these proceedings tend to the relief of seedsmen and market-men, as well as to the benefit of all private growers and consumers? W.

*Boulsburg, Pa., Dec.* 8, 1856.

* * *

The receipts of the last Ohio State Fair, were nearly $17,000.

## IMPORTATION OF VALUABLE STOCK.

The ship Antartic arrived at New York, a few days since, with a valuable cargo of cattle, horses, sheep and pigs; also a lot of rare birds. The cattle were for Mr. Samuel Thorne, of Dutchess Co., New York, and Mr. R. A. Alexander, of Kentucky, both celebrated breeders of Short-horns. The most remarkable animal in the lot, however, is the celebrated race-horse "Scythian," one of the best stallions England ever produced, whose pedigree and performances are well known to the sporting world. He was winner of the following prizes:—New Market stakes, £350: Dee stakes, Chester, £750; Goodwood stakes, £950; New Market Royal stakes, £1,240; Chester Cup, £2,775; Stockton, £530; Goodwood, £539. This valuable horse was bought by Mr. Alexander for 1,500 guineas, ($7,500.) Prominent items in the cargo were several splendid South Down sheep, including a shearling ram, bought for 80 guineas—consigned to Mr. Alexander. The cargo also comprised some excellent pigs, three of which cost $375. The birds included gold and silver pheasants, remarkable for their beautiful plumage. Also, white and black swans, white peacocks, magpies, with various kinds of chickens of the most delicate, rare and valuable species. In all, this is supposed to be one of the most handsome and valuable importations of stock ever made from Europe to the United States.

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For the Farm Journal.

## THE FARMER'S NOTE BOOK.

### PATENT FARM WAGON.

Mr. Editor:—While the improvements in agricultural implements have been greatly multiplied, but little attention has been bestowed upon the proper construction of the *farm wagon* now generally in use. Indeed, it would appear, that it has been totally neglected and forgotten in the *furor* that has recently absorbed the inventor's genius to produce new implements, or improvements in those that have promised to be useful to the practical farmer. Hence it is, that but little attention has been devoted to their construction, excepting so far as regards their durability was concerned. This was considered the all important object, while to ease the draught and lighten the ponderous weight, or to make it self-unloading, never for a moment entered the mind of those who manufactured them for the unsophisticated farmer, who enjoined strict obedience to his one idea of practical farming—the handing down from generation to generation the old time practices, unadulterated by even a tincture of the progressive movement either in implements, the cultivation, or products of the farm. Much, therefore,

had to be encountered before any innovation could be obtained, in consequence of this deep-rooted prejudice having to be overcome.

By the gradual observation, however, of the benefits accruing from the use of improved implements, a disposition to embrace every new facility to alleviate the labors of the farm has become apparent among those, who, heretofore were exceedingly dubious of everything that appeared likely to change their established method. In view of this consideration, constant accessions to agricultural advancement is being made in all branches of the rural pursuit, and hence, the person who would endeavor to promote the interest of the husbandman, by offering an improvement to his farm wagon, would no longer be considered a fit subject for an insane asylum, or an idiotic fool possessed by visionary ideas to excite their special mirth-loving propensity. Happily, the feeling of prejudice has been almost entirely removed, in this progressive age, consequently, I can introduce to the notice of the practical farmer, the "Improved Farm Wagon, patented by Thomas Castor, Frankford," with the pleasing assurance, that it will be greatly appreciated, inasmuch as an improvement in the old style of farm wagon has been desired for a length of time.

The advantages of this wagon consist in the self-unloading principle attached, combined with ease of draught and extreme lightness of weight, besides durability and strength. Altogether forming a most complete farm wagon for all purposes required, either for farm work or miscellaneous operations, generally performed between the busy seasons connected with the rural pursuit. The self-unloading principle for which a patent is secured, is a desideratum long wished for by many practical farmers, and affords an easier facility for dumping the load than that of the cart. Hence it is, that by having this attachment to the wagon, the advantages of a cart and wagon combined is obtained, while the necessity of a cart is of but little consequence, and may be dispensed with entirely. The economy, therefore, of this wagon is exceedingly important, not only in regard to this consideration, but in many others accruing from its use.

Many articles are hauled on the farm, as well as to it, which must be unloaded by hand unless a cart be employed; but, in most instances, a wagon is required, in order to carry a larger load more conveniently, and hence save time, which is money, in the conveyance. Now, these loads must invariably be discharged by hand, whatever the contents may be, unless the *improved wagon* is employed. In those counties where lime is largely applied to the land, such as Montgomery, Bucks, Chester, and others, it should be used by every practical farmer; and for those farmers who haul considerable manure from the city of Philadelphia, during the winter, and whose custom is to deposit the loads on a heap, or in the barn-yard, until the desired quantity is obtained, I should consider it indispensable, in consequence of the facility of unloading which is so tedious and unpleasant as in the case of unloading lime, while the time saved would add an additional length to the short days of winter, which would more than compensate in a very short time for even the whole cost of an improved wagon. And beyond this, there is always a good portion of hauling required about the thrifty farmer's homestead, when the farm hands are more at leisure, such as hauling earth for filling in uneven surfaces, repairing roads about the farm with some hard material obtained from a distance, or from the quarry on the farm; or, perhaps, some building operation is being performed, which is mostly the case with the progressive farmer, then it is, that the usefulness of the dumping wagon is the more apparent, and the wonder suggests itself at once, how was it possible to do without a dumping wagon until the present one was invented by the ingenious patentee.

I need not dwell, however, upon the great convenience and economy of the "Improved Farm Wagon," as it is presumed that no practical farmer will fail to observe the benefits to be derived from its use, consequently I can only urge the necessity of its early introduction on every farm in this and every other State, that the arduous labors of the farmer may be yet more reduced, by this timely labor-saving invention, and thereby contribute to elevate his social position higher yet in the scale of intellectual agricultural wisdom, that shall eventually by means of the progress of improvement, cause him to be numbered among the most noble and refined in the world.* E.

*New Bustleton, Nov.* 28*th*, 1856.

* * *

## AGRICULTURAL EDUCATION IN OHIO.

The Ohio Agricultural College, located at Cleveland, commenced its second session on the first Monday in December. The plan of instruction consists in courses of Lectures, four daily, which are given at the regular annual session held during the winter months, continuing for twelve consecutive weeks—a season of the year when the Farmer himself, or his sons can best spare time to attend. The Lecturers are Prof. J. P. Kirtland, Prof. Jas. Dascomb, Prof. Samuel St. John, Prof. J. H. Fairchild, Prof. N. S. Townshend, and others. The terms for the entire course, $40, with the privilege of a second course, tuition free.

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* These improved wagons are sold at from $130 to $140.

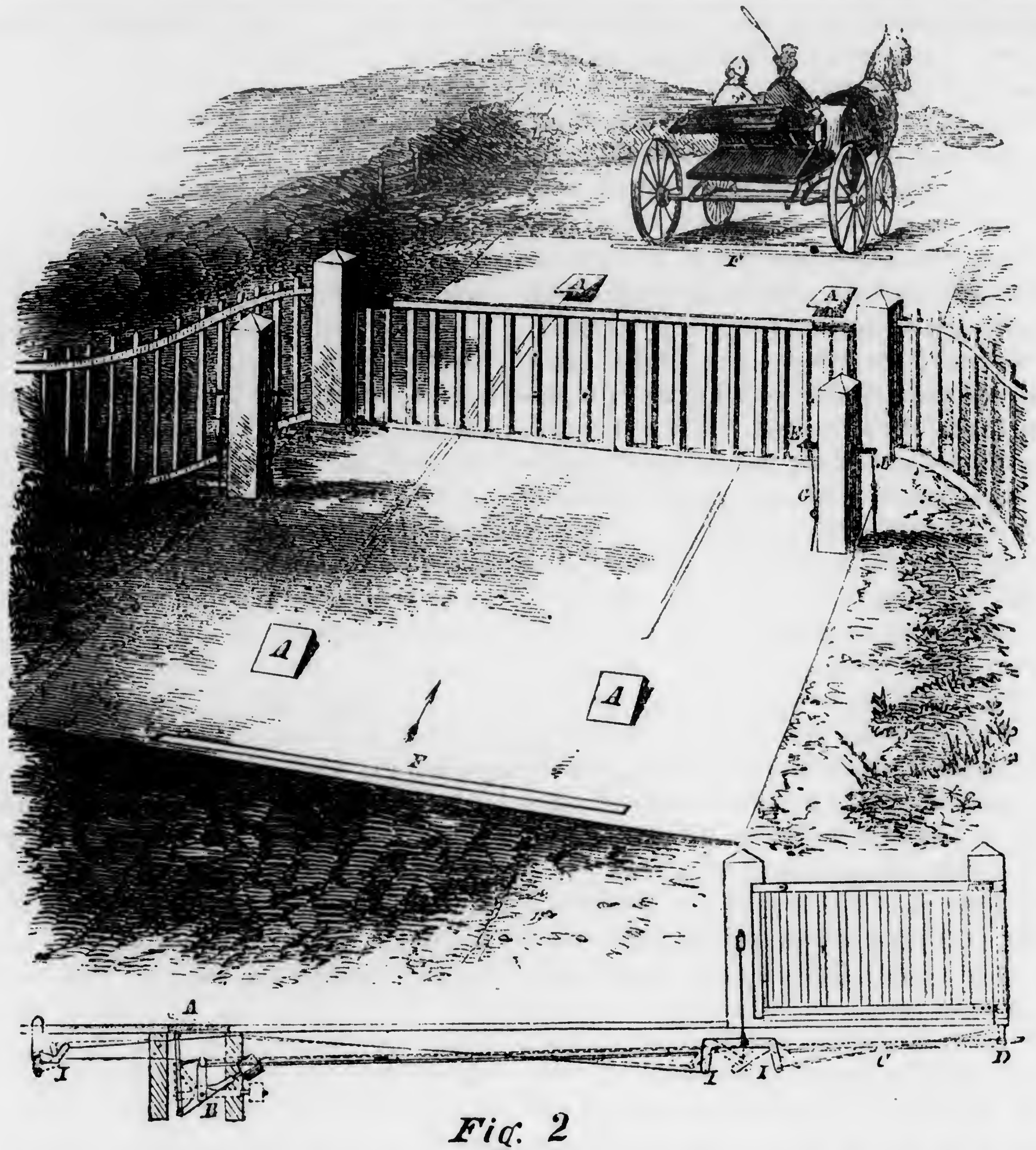

*Fig. 2*

### SELF-ACTING CARRIAGE GATE.

Our engraving illustrates the invention of J. A. Ayers, for which letters patent were granted January 22d, 1856.

The gate is made in the common manner. It is opened by the weight of the vehicle, whose wheels, in approaching the gate in the direction of the arrow, strike the hinged plates, A, and depress them. Plates A, are connected, by means of rods and cranks, B C, with a crank at D, which is attached to the lower extremity of the inner end of both gates. By the depressing plates, A, the gates are caused to swing open, and fasten on the catches, E. The gates are so hung that they will close by their own gravity when the catches, E, are unfastened. This unfastening is done by depressing the rails, F. The catches, E, are connected by means of rods, G H, and cranks, I, with rails, F. When the carriage has passed through the gates its wheels strike one of the rails, F, and unfasten the catches, E, whereupon the gates, being liberated, close. G, are springs, which raise the front end of catches, E, after they have been depressed. Cranks, B, are weighted so as to throw up plates, A, after they have been depressed.

The above is a very cheap, simple, and effective improvement. It has been introduced, we understand, in several localities, with much success. There is nothing about it liable to get out of order. Its convenience and advantages are obvious.

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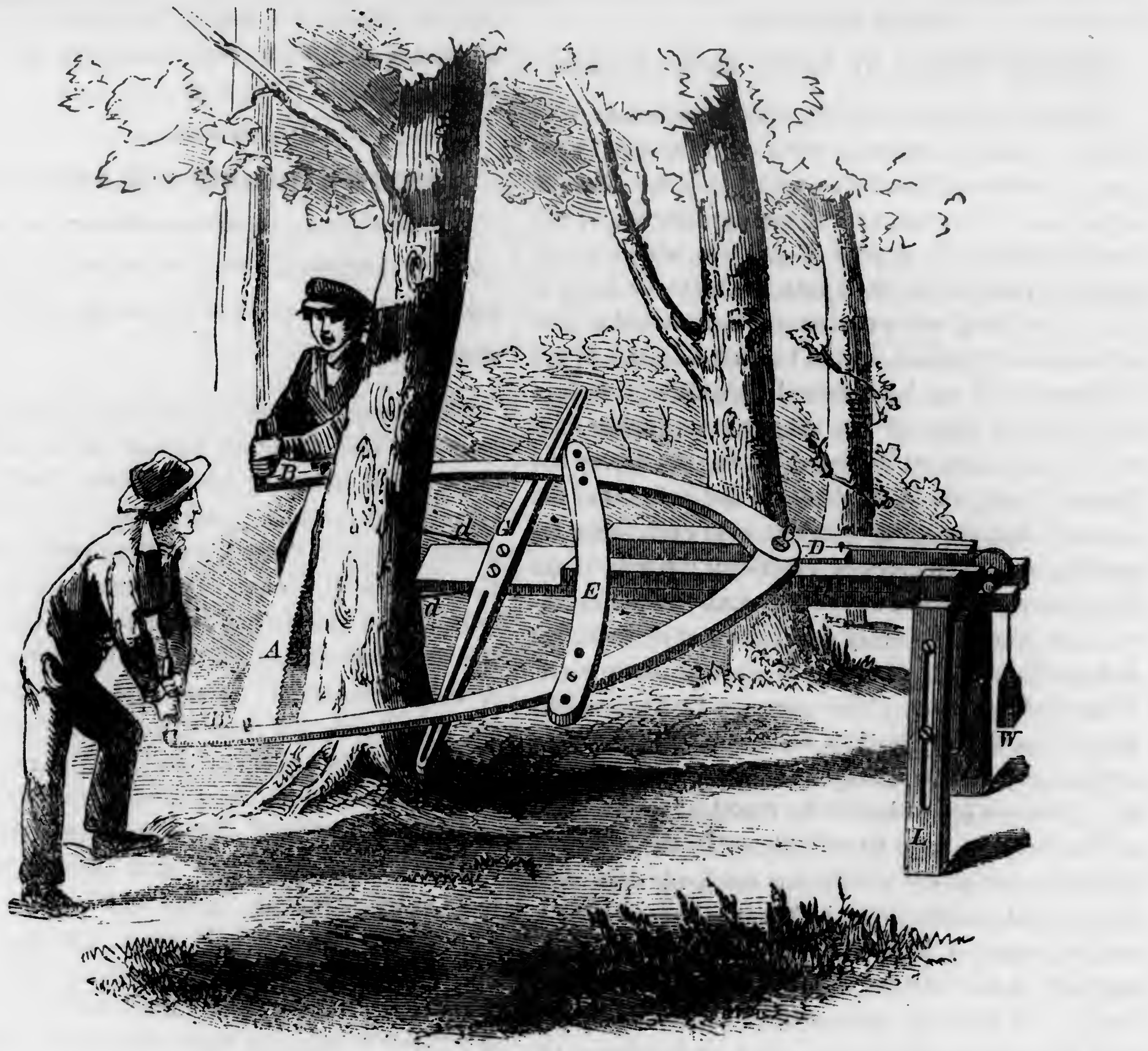
THE Editor of the *Homestead* has tried the cultivation of the Fluke potatoes, received from the Patent Office, with but indifferent success. The entire product of three and a half barrels of seed distributed amongst his neighbors, all rotted in the ground.

THE *American Cotton Planter* and *The Soil of the South*, have been merged into one publication, under the title of "*The American Cotton Planter and Soil of the South.*" The publishers promise great things to their subscribers, and we have no doubt they will fulfill their promise to the letter.



### MATHERS' TREE SAW.

This figure represents the machine, and its application to the sawing of trees, for which a patent was granted to E. Mathers, of Morgantown, Monongalia Co., Va., on the 18th of March last.

This machine consists of the saw with its frame, and a trestle with its appendages. A is the saw, which is of a concave form. B B are its curve arms, secured at the apex by C, a pivot bolt. E is an adjustable cross-bar. The saw can thus be easily adjusted to any desired tension. These parts constitute the saw frame. The fulcrum pin, C, passes through the guide block, D, which slides in a channel in the trestle, and has a weight, W, secured to it by a cord passing over a pulley. This weight, by its tension on the fulcrum block, D, feeds the saw forward to its work as it cuts into the tree. L L are the legs of the trestle. They have vertical slots in them for securing the saddle, F, by bolts, at different heights. H is the trestle reach or bearer; it rests on the saddle, F, therefore it is raised and depressed with the adjustable saddle. The arch extends to the tree to be cut down, and on its front end is one or more dogs, which are driven into the tree to hold it firm; there are also two long side dogs, *d d*, for the same purpose. The cross-bearer, G, is a support and guide to the arms of the saw as they are reciprocated back and forth.

The concave saw is the best for cutting down trees, but a convex one may be employed by inserting a wedge after the saw has entered the cut some distance. This sawing machine can also be applied to saw logs after the trees are felled. This is accomplished by removing the legs of the trestle, raising the bearer, H, vertically, making the long dogs, *d d*, the hypothenuse of a triangle, by forcing them into the log and holding it firm. The saw frame can then be worked vertically to cut the felled log, as well as horizontally to cut down the tree.

This sawing machine is very simple, is designed for hand work, and can be constructed by any carpenter, and by most of our farmers. It can be taken to pieces in a few minutes, carried conveniently from place to place, and also put up in a few minutes. A machine to be useful for sawing in the forest must be cheap, simple, light, and easily adjusted—objects, which this machine accomplishes; also the employment of manual labor to good advantage in sawing.

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CATTLE kept in motion will pay for their keeping.

For the Farm Journal.

## CALLING THINGS BY THEIR RIGHT NAMES.

Messrs. Editors:—I. B. S., of Chester county, who writes "Calling things by their right names," runs into an extreme opposite to that which he seems to apprehend. Extremes are always productive of evil consequences. A course of practice which would perhaps, neither suit the spirit, the taste, or fancy of the "Fast Man," nor yet measure well with the ideas of an ancient puritan, would be well adapted to the "Grounds" of an Agricultural Exhibition. It is a very limited view of the subject, to suppose that such exhibitions are intended alone, to display the flowers, fruits, seeds, implements and animals of the country, that they may compete with each other for quality, size or degrees of excellence; nor is it all, that this competition will excite emulation and general improvement in every department of agriculture; but to effect all its purposes, it must be made gratifying and amusing. The naturally isolated condition of the farmer, renders these annual meetings a subject of pleasant anticipation to him; not because he is there to see collected the excellent productions of the country; or to be enlightened by the improvements in machinery which the mechanic has produced; but, besides these, he hopes to be entertained, excited, amused with the people, the crowd, the meeting of his friends, and especially the "horse track." Is there any harm in this? "Horse racing," as it was once practiced, and is now forbidden by the laws of our State, was exceedingly objectionable in all its features and consequences; it was oppressive to the horse; it was a scene of gambling; it was a contest between jockeys and gamblers, collected from all parts of the country to win each others' money. "This modernized horse-racing," as your correspondent is pleased to call the practice of this day, possesses no one of these features, nor does it possess any feature which a "God fearing, church loving, piously disposed man," if his mind be expanded by those true principles of piety, which maketh the heart glad, may not sanction by his approbation and presence. If he can see in the exhibition of the powers of a trotting horse, that which is improper and sinful, he must not suppose that any one else can see it.

It is not pretended that horse-racing at our exhibitions may not be carried to an extreme; and when it is made to preponderate over all else, there is danger of its attaining that point. It would be well to continue those rules, which I believe exist in all our State and County Exhibitions, and limits the speed to a trot or pace, and absolutely forbids betting in any form. With these restrictions it is difficult to conceive how any evil can result from a practice which is certainly approved by admiring thousands, as differing most essentially from "vulgar horse-racing."

W.

## PROTECTION AGAINST THE APPLE WORM.

Mr. E. Cass, in a communication to the *N. Y. Country Gentleman*, gives an account of the means taken by him to prevent the ravages of the apple worm. He says:

"The worm, without doubt, is produced by a moth or miller, which deposits its eggs in the calyx of the apple when it is very small. These eggs soon become worms, which gnaw holes into the apples, where they feast themselves all summer, and sometimes nearly all winter. I suppose these worms turn to millers in the spring or forepart of the summer, and deposit their eggs on the young apples the same as the previous year. Many of the apples after they are punctured, fall from the trees before they are half grown. Many that remain on the trees till fall will not keep more than three weeks after being picked. Every fruit culturist knows that apples will keep but a short time after the skin is broken so as to let in the air. After having been troubled with wormy apples for 15 years, I at last tried an experiment upon one tree, by taking half a dozen quart beer bottles, and filling each half full of sweetened water, and then suspending them from the branches of the tree in the following manner; I tied leather straps, three-fourths of an inch wide, around the branches, to prevent them from being girdled; to these leather straps I tied hemp strings, to which I attached the bottles, leaving them open to allow the millers to enter.

"I let the bottles remain in this situation five or six weeks, and on taking them down and emptying them, I found the millers had entered in great numbers, and were drowned in the liquid. In one bottle were fifteen, in another forty, and so on. The trees thus treated produced fourteen bushels of large fair apples, while the fruit on the trees not experimented upon were wormy."

## BRITISH STATISTICS OF GUANO AND BONES.

By official returns of the Board of Trade for the first three months of the past year, it appears that in Great Britain the imports of guano, bones, &c., are nearly 100 per cent greater than during the first three months of 1855. During the first three months of these two years, the imports were, of

| | 1855. | 1856. |
|---|---|---|
| Guano, | 35,570 tons. | 62,265 tons. |
| Bones of Animals, | 5,157 " | 9,741 " |

## IS CHARCOAL AN ABSORBENT OF AMMONIA?

It has long been the opinion of writers on agricultural chemistry, that charcoal possesses the power to absorb several hundred times its bulk of Ammonia, and hence the common advice to add charcoal to the manure heap, in order to prevent the escape of this most precious element of plants. We have recently, however, seen a report of some experiments made in England, by Professors Way and Davy, which go to disprove the opinion above mentioned, and facts certainly give much weight to these new views. It is now said that charcoal is an absorbent of Ammonia, immediately after it is removed from the kiln, or after being heated to redness; but if exposed to the atmosphere for any length of time, or to moisture, its pores become filled with water, or aqueous vapor, and it can then absorb only so much ammonia, (or only a trifle more,) than the water in its cells can itself take up. In proof of this fact, it is stated that if ammonia is filtered through moist charcoal, it will scarcely make any perceptible loss of its substance, and hence it is shown that none or very little is absorbed by the carbonaceous mass. This explanation seems a rational one, and if true, will show how easily the wisest of men may be deceived. Admitting the truth of the new view, the farmer will now enquire to what material he must look for the preservation of ammonia in the compost heap. Our answer is, Plaster of Paris, (sulphuric acid and lime,) or dilute sulphuric acid, the capacity of which, to fix ammonia is, we believe, undoubted. But it must be recollected, that Plaster of Paris does not possess power in a dry state, or when applied to dry manure; only when the sulphuric acid has been set free by water, will it act upon ammonia. It is not an absorbent, it only changes volatile ammonia to a non-volatile body.

## PEAT AND PEAT CHARCOAL AN ABSORBENT OF AMMONIA.

The use of charcoal in stables and barn yards for the absorption of ammonia, is a standing recommendation in several of our agricultural papers—especially of some of the pseudo-scientific journals which, in spite of the exposition of their numerous errors, still continue to retard the march of agricultural improvement, by publishing statements that cannot fail to deepen that contempt felt by many good practical farmers for every recommendation issuing from the laboratory of the chemist, or the sanctum of an editor. The power of charcoal as an absorbent of ammonia, has been greatly overrated. It is true, that in the experiments of Theodore de Saussure, charcoal absorbed ammonia equal to ninety times its volume. In other words, a cubic yard of charcoal would absorb about one hundred pounds of ammonia—or equal to the quantity contained in ten tons of ordinary barn yard manure. The adherents of charcoal as an absorbent of ammonia, base their recommendation on this experiment—forgetting to state one important fact connected with it. The charcoal on which Saussure experimented, was heated to redness, and while red hot, was plunged into mercury, and when cool, without being exposed to the atmosphere, was plunged in ammoniacal gas. If charcoal could always be heated red hot and cooled under mercury, it might be a valuable absorbent of ammonia. But this cannot be done. The charcoal which is used for this purpose, has generally been exposed to the atmosphere for some time before it is used, and its pores are filled with air and moisture. The practical question is not whether charcoal can be placed in such a condition as to absorb ninety times its volume of ammonia, but whether it will absorb it in the condition in which it is usually employed. On this point recent experiments throw much light.

Allen and Pepys found that beech wood charcoal increased in weight, by a week's exposure, 16.3 per cent. The matter absorbed, consisted principally of watery vapor, which is greedily imbibed by newly made charcoal. It follows from this that charcoal mixed with the soil, or exposed to the air, would soon become saturated with moisture. It has been supposed that ammonia would displace water in charcoal, but the experiments of Prof. Way have led him to a different conclusion. He says:

"Great misconception exists in regard to the powers of charcoal. Charcoal is known to have the power of absorbing ammonia and other gasses, and that to a very considerable extent; it is taken for granted, therefore, that its power exists equally under all circumstances; but such is not the case. It absorbs ammonia, by virtue, principally, of its great porosity—by a kind of surface attraction—an attraction possessed by all solids for gases, and having relation of course to the quantity of surface—hence, charcoal, in common with all porous bodies offering in a given weight a large amount of surface, has a great absorptive power for gases. But this power is also possessed in an eminent degree by water—more especially is this the case where gases largely soluble in water are in question. When, therefore, we treat charcoal saturated with ammoniacal gas, with water, the superior attraction of the water comes into play, and the ammonia is transferred from the charcoal to the solution. In the opposite case, that is to say, when a solution of ammonia is filtered through charcoal, its strength cannot be sensibly diminished. Indeed this fact has been experimentally demonstrated by Dr. Anderson, who published a series of trials, proving the want of power in charcoal to remove ammonia from solution, and I have myself made experiments of the same kind with a like result."—*Journal of the Royal Agricultural Society, vol.* 15, *p.* 158.

Dr. Davy has recently published the results of his experiments with peat and peat charcoal, as absorbents of ammonia, from which it appears that fermenting urine mixed with peat *charcoal*, lost three-fourths of all the ammonia it contained, while the same urine mixed with the same peat *not charred*, lost no ammonia by several days exposure to the atmosphere.

"These experiments," says Dr. Davy, "show that peat charcoal (contrary to the many statements which have been made by its advocates,) has very little power of absorbing and retaining the ammonia of excrementitious matter when mixed with it; whereas, peat possesses this remarkable property in an eminent degree, and absorbs and retains it in a most striking manner."

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## FARMERS' BOYS.

Out in every tempest,
Out in every gale,
Buffetting the weather,
Wind and storm and hail;
In the meadow mowing,
In the shady wood,
Letting in the sunlight,
Where the tall oaks stood.
Every fitting moment.
Each skillful hand employs—
Bless me! were there ever
Things like farmers' boys?

Though the palm be callous,
Holding fast the plow,
The round cheek is ruddy,
And the open brow
Has no lines and furrows
Wrought by evil hours,
For that heart keeps wholesome,
Trained in nature's bowers,
Healthy, hearty pastime,
The spirit never cloys;
Heaven bless the manly,
Honest farmers' boys!

At the merry husking,
At the apple bee,
How their hearts run over,
With genial harmless glee
How the country maidens,
Blush with conscious bliss,
At the love word whispered,
With a parting kiss;
Then the winter evenings,
With their social joys!
Bless me! they are pleasant,
Spent with farmers' boys.

*Merry's Museum.*

## THE CHINESE SUGAR CANE IN PENNSYLVANIA.

We know of no plant, the cultivation of which has attracted so much attention as the Chinese sugar cane, and which, from all we are able to learn, promises to become so valuable.. It is possible that the anticipations of our Northern farmers, in regard to its profitable culture, may not be realized; but there is scarcely the shadow of a doubt that it is eminently adapted to the Southern States; and if its sugar producing qualities are in any degree comparable with the ordinary sugar cane, it must, from the greater ease of cultivation, eventually supersede it. It becomes, therefore, a question of the highest import with the farmers of Pennsylvania, whether it can be cultivated with success and profit in our State. We have heard of many instances in which it has fully matured its growth, and some, in which the experiment of making sugar and molasses from it has been successfully practised. Further experiments are wanted and will doubtless be made during the coming year, and its value to the farmer thus definitely ascertained.

From all that we have been enabled to learn in regard to it, we are inclined to regard it as possessing a value to Northern farmers, independent of its sugar producing qualities. We find that cattle eat it readily, and improve upon it rapidly—more rapidly than upon corn fodder or stalks, and equally as well as upon hay. Such being the case, it will doubtless be largely cultivated for foddering purposes, should it not be found to answer well for sugar making.

At all events, it is worth experimenting with, and as seed sufficient for this purpose can be procured for a shilling or two, every farmer can test its value upon his own premises and under his own supervision, and thus satisfy himself in regard to its adaptation to his purposes.

Much has been said and written recently in its praise, and there are doubtless those, who if they could, would adopt the usual system of extravagantly high prices for the seed. Fortunately, the principal bulk of the seed has fallen into more considerate hands, and while the price demanded is high enough, it is a mere nothing compared with some other seeds, the value of which is decidedly problematical. Its immense seed producing powers forbid the idea, that even present prices can be maintained beyond the coming season, as the product of a shilling's worth of seed will supply the wants of a neighborhood in a single season.

We therefore commend it to the special attention of the farmer. There is no necessity for engaging in its cultivation extensively, until its merits are thoroughly understood, and its value to Northern farmers definitely ascertained. These points settled, it will then be time enough to make it a standard article of culture, or reject it as worthless. The following brief notice of it, we copy from the Lewisburg, Pa., Chronicle:

"This plant, as its name imports, came from China, where sugar is made out of its stalks. Its seeds are small, and of an exceeding rich, shining black color. I planted my seeds on the 7th of May last, in a sandy loam, about an inch deep in the ground, in hills like Indian corn, and cultivated them like corn. The growing plant looks very much like Broom corn, but has a richer green color and more beautiful form, than either our Broom or Indian corn plant. I put from six to seven seeds in a hill, and they all grew and ripened finely, making stalks from ten to eleven feet high, whose tops, like those of Broom corn, were full of seeds. And if the seeds are planted earlier, and the season more favorable than our last dry one, the plants will, I am confident, grow from three to five feet higher. The stalks abound in a rich, sugary juice, which induces cows and hogs to eat them up greedily and in preference to most other kinds of food. The growing plant will also thrive under a drouth that will parch and dry up our Indian corn plant—and this, in connection with its large yield, will render it a desirable fodder plant to feed and fatten horned cattle and hogs."

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For the Farm Journal.

## REVOLUTION IN AMERICAN HUSBANDRY.

MESSRS EDITORS:—It is remarked by an English paper that the introduction of artificial manures, the improvement of agricultural implements, and the increasing substitution of steam for manual and horse labor, has effected such a change in the entire process of English husbandry, as to amount almost to a revolution. Now, Messrs. Editors, do you not think that this sounds well? Is there not something in it which should stir the heart of every farmer in America, and induce him to adopt the determination of becoming one, at least, of the number who will set about the work of producing a similar revolution in American husbandry.

It will, perhaps, be said by many whose eye shall meet this paragraph, that our agriculture is advancing rapidly enough, and that we now stand decidedly in advance of England in all that relates to farming. But it is apparent that such views have no foundation in fact, and are calculated only to mislead. We all admit that the American farmer has made wonderful progress, and that his spirit of enterprise equals in every particular that of his trans-Atlantic brethren; but the point to be settled is, whether we advance as rapidly as we should, and has our advance been a solid and reliable one—can we advance no farther?

So far as the growth of our country is concerned, and so far as the amount of our agricultural products go, we would, upon a merely superficial view, have reason to plume ourselves upon our decided superiority as an agricultural people. But when we analyze the matter, it presents a different aspect, and instead of placing us foremost in the ranks of agricultural nations, it becomes a question whether we are not entitled to a place nearer the rear. All this, I am aware, grates harshly upon the ears of those who labor to convince themselves that they have reached the highest point of perfection in agriculture. There is nothing more difficult than to convince a man of error, who has been wedded to it by the practice of many years, and who has the sanction of his fathers and grandfathers to strengthen him in it. Yet the day must invariably come, when much that is considered perfect farming with us, will be "given to the owls and bats," and men who now advocate these ruinous systems, will look back in wonder and surprise at the errors which held them in thraldom so long, and from which they have so happily escaped.

It is not my purpose in this communication to point out in detail all or any of the errors alluded to, but I may be allowed to remark, that until our lands show in the aggregate, increasing productiveness, it is but a fair inference that we are not advancing as we should. The statistics of the country conclusively demonstrate the fact that there has been a very serious deterioration in our soils. This deterioration has not been confined to any particular locality, or section of country, but may be traced almost everywhere. Some sections indicate it in a more marked degree than others, but it is still sufficiently marked almost everywhere to awaken serious apprehension. It, therefore, becomes a question for calm consideration, what causes have produced these results, and what means will remedy them. If, as we learn from the paragraph quoted above, a change amounting almost to a *revolution* in England has been accomplished by means of concentrated manures, improved implements and the substitution of steam for hand and horse power, will not the same agents properly applied with us work similar results. If, in England, where labor is scarcly half the price it is with us, labor-saving machinery has been so successfully adopted, is there not more ample room for it here, and is it not more decidedly to the advantage of the American farmer to introduce it into every department of his farming operations? If artificial manures have been so advantageously applied there, may they not be as advantageously applied here? Are there not hundreds of thousands of tons of the choicest fertilizing material in the shape of night soil, blood, butcher's offal, sewer manures, bones, &c., annually permitted to go to waste, which by judicious management could be brought into profitable use, and assist materially in repairing the losses which our lands sustain from continued cropping. The answer to these questions can only be an affirmative one.

Now, Messrs. Editors, I wish to suggest to you, and through you to your many readers, the propriety of giving these subjects, if not prayerful, at least careful consideration. I have faith sufficient in American enterprise and ingenuity to believe that whatever has been accomplished in other parts of the world can be successfully effected here. There is no good reason why all these aids to the farmer's profits should not be taken advantage of. All that is needed is to present the subject fairly. They as a class are too wide awake to their own interests not to avail themselves of every facility which is offered to lessen expense, and, consequently, to increase profits. I indulge the hope, therefore, that what I have written will not be misconstrued, into a desire or disposition to underrate American farming. Such is not my object. I have considered the matter well, and present these views with the hope that they will possibly awaken a kindred feeling of interest in my brother farmers—that the important points alluded to will be thoroughly discussed, and that the result will be a determination not to abandon them until every farmer shall have been thoroughly convinced, either that he has already hit upon the most economical system of farming, or that his past system has been defective, and he is ready to go hand in hand with others in bringing about such a revolution in American farming, as has already been effected in England.

T. L. R.

*Delaware County, Pa.*

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For the Farm Journal.

## CARROTS NOT WORTH FEEDING.

Messrs. Editors:—While standing in one of the agricultural stores of your city, a week or two since, a gentleman entered, and inquired of the proprietor whether he knew of any person who wished to purchase a lot of fine carrots, at forty cents per bushel. I was greatly surprised to find any farmer desirous of disposing of his carrot crop, unless too large for his own purpose. And made the inquiry how many he had to sell, and how many he had raised.—Imagine my surprise, when I found that he was willing to sell every carrot he had raised, assigning as a reason, that he did not consider them worth feeding to his cattle. I did not attempt to reason the point with him, but will, with your permission, say a word to the readers of the Journal on the subject.

Carrots are medicinal, particularly in the case of horses, which are recovering from severe illness, or where they have much cough or considerable humor or foulness about them. If you feel desirous of having your horses coat look smooth and glossy, his lungs healthy and free, his spirits exuberant, in fact if you wish him to enjoy health in its fullest sense, feed him carrots with his oats and hay.

Somebody tells us, (and I am inclined to regard it as good authority,) that "carrots furnish an acid called pectic, which possesses the curious property of gelatinizing the watery contents of the digestive cavities," so that if the alvine discharges of a horse is watery, carrots may be used with advantage, to correct this, as well as to restore the tone of the stomach and bowels.

Carrots are valuable as a substitute for oats, corn, &c. Mr. Merril, of Massachusetts, says he would prefer one hundred bushels of oats and one hundred bushels of carrots, to two hundred bushel of oats. Mr. Curner remarks in an article communicated to one of our agricultural works: "I have found by the experience of the last two years, that where eight pounds of oat feeding was allowed to draught horses, four pounds might be taken away, and supplied by an equal amount of carrots, and the health, spirit and ability of the horses to do their work, be perfectly as good as with the whole quantity of oats. An acre of carrots supplies a quantity of food for working horses, equal to sixteen or twenty acres of oats."

But it is not only for horses that carrots are valuable as food. Experience has proven them equally valuable for cows. We have abundant evidence of the fact, that the milk of cows fed upon carrots at mid winter, is almost equal in flavor and richness, to that produced by clover pasture in mid summer. They impart to the milk a rich orange color, and do not, as is generally supposed, impregnate it with their flavor.

If other testimony is wanting, it shall be forthcoming, but I am inclined to hope and believe that there are few farmers, who, like the one above referred to, are willing to sell their whole carrot crop because they do not consider them worth feeding to cattle. In conclusion, allow me to offer the following extract, it is as strong as anything I can offer:

"For two months past I have fed my two horses upon carrots and hay. My horses are in constant service on the road; and under this treatment they usually come out at the end of the "pile" looking better than when they commenced. My dose is two quarts, morning, noon and at night—four to each horse; they have as much good, sweet English hay as they will eat, and *cut*, whether fed to them dry or otherwise. This latter I have always practised since I have had the management of horses; and I am satisfied that it is the cheapest and best way in which it can be given to the horse. There is no waste, and horses eat it better, and have more time to rest, which is quite an important consideration, when the horse is liable to be taken from the stable at any moment. I am satisfied there is no better way of feeding horses, nor is there any cheaper one —that I have ever tried—than the one mentioned. If there is, will not some person who knows, please report? I always cut them quite fine before using. Carrots are most excellent for horses whose wind is any way affected—such as the heaves, &c. Those who have tried them for this purpose will, I think, agree with me in this; if not, just try the experiment and be satisfied. They are usually cheap, compared with other articles of food of equal nutritiousness. Last year I paid nine dollars per ton, this year eleven, and at the latter period I prefer them to oats —measure for measure."

P.

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For the Farm Journal.

## REAPING MACHINES.

Messrs. Editors—That reaping and mowing can be done in a more complete manner by the aid of machinery than simply by hand, is no longer doubted by those who have witnessed the operations of a good machine of this kind.

It is our object in what remarks we will make on this subject, to aid farmers who yet intend to purchase some of these implements, in making such a choice from the many patents of the kind, as will subject him to no unnecessary expense, nor yet to disappointment—this is a duty we owe to one another. And we will not be thought partial, without cause, we hope, if we express a preference, if that preference is reasonable, and the result, too, of some experience—and especially when we state that we are in no way concerned in the manufacture or sale of anything of the kind as personally profitable.

Nor would we undervalue the efforts of any of our mechanics, who have tasked their genius to invent something to aid the farmer in gathering his harvest, even if they may not have succeeded to their expectations, or to the satisfaction of the farmer. All such efforts, if properly conducted, are praiseworthy. And since success in some instances has been so complete, that our crops of grain and grass can be cut with so much dispatch and neatness by these inventions, the farmer should feel himself under some obligations to the mechanic. The inventor of a good reaper is a benefactor to the farming community, at least of no small account, as he has by his efforts made the most laborious part of farming comparatively but a light job.

We have been using for the last two harvests McCormick's reaper and mower combined, of 1855, and with entire satisfaction for both purposes. There are three or four points in particular, which we believe constitute the merits of this reaper, and without which, or any one of them, a reaper would be incomplete. And first—the reel, by which the grain as it is cut off is directly laid straight on the platform, ready to be thrown off in sheaf by a single sweep of a rake. This cannot be done so neatly, and with such regularity by hand with a rake, as is the mode with some patents. The labor of raking off the sheaves is sufficient for one hand, and to place another on the machine to do the work a reel can do much better, is objectionable; the reel obviates, too, in some measure, the necessity of rapid driving in order to throw back the grain on the platform, which also is very objectionable, as we shall see.

Again—the sickle, with its zig-zag edge, is another important point of merit in this reaper; much superior, we believe, in this respect, to any cutting apparatus of the knife or shear principle that we have seen, being less liable to break in coming in contact with any hard substance while in operation; also, the sickle-edge will keep in cutting order much longer than the other.

We have cut 160 acres of grain with one sickle, and yet, on examination, it does appear that it will not be necessary to grind it until it has cut double that amount. Nor is the grinding any difficult matter, although we have met with those who were of the opinion that it could not be done at all.

Another point to be particularly noticed, is the gearing of this reaper, which is so gauged as to give motion to the sickle sufficiently rapid to cut clean, when the team is at a *slow walk*. Every one who has used a reaper, will readily agree with us that this is a point of much importance. Some of the objections to a reaper requiring fast driving are, that a team cannot stand rapid driving as the weather usually is in harvest, to go with any degree of regularity; that it is not practicable on much of our land to drive fast, being hilly, and often it is necessary to reap up-hill; that the wear and liability to accident, is greater by fast than slow driving. If any should object to slow driving on the score of not doing work enough in a given time, they will bear in mind, that while this reaper will make good work at a slow drive, it will do so too at a rapid one, and will also go as fast as driven. But the advantage is, it not being at all necessary to drive fast in order to cut clean if the sickle is in good order. The weight of this reaper, so far from being an objection to it, is an index to its strength and durability. It is not a heavy draught for four horses, while two can do much work with it on level land.

A good reaper is a valuable implement to the farmer, and those who have such a one will find it to their interest to take good care of it. Where a reaper is intended to be used, the ground should be prepared before-hand; there should be care taken in plowing, and not to ridge up much at the beginning of a land, nor make deep furrows at the finishings, especially where mowing is intended to be done by machinery of this kind. Indeed, no machine can be invented to cut grass, and at the same time to cut stones, stumps, clods, &c., though such inventions can be had to do all this, if but one of these things be taken at once, and the cutting aparatus intended therefore be applied.

And while we feel cautious about setting bounds to Yankee ingenuity, we would say again, that no invention will soon be made to do all this at a single operation. Then we should at once set to clearing the surface of our fields of every obstruction, if we would reap and mow with those machines to advantage, and if we would take proper care of these as well as of all the implements we use in our fields.

J. H. A.

*Near Norristown, Pa. Nov. 28th*, 1856.

## WINTERING COWS.

Somebody has made the following excellent suggestion, which we recommend to the special notice of our farmer friends. At all events it is worth a trial.

"If I were to have cows wintered just to my liking, they should be fed on corn stalks, and, if profit were consulted, these, by all means, should first run through a stalk cutter. This in my estimation, is a saving of at least one-fourth their value. My method of feeding is to give each animal a bushel basket full of chopped stalks; they will not eat them clean, but to save all, I throw all they leave in the mangers to my colts, who soon dispose of them, and without a remainder. Those cows which are in milk, are fed a slop of buckwheat bran, night and morning; those not yet come in are given two or three ears of corn at each feeding until they begin to spring bag, when they are fed once a day, the same as the cows which are milked. In this way cows may be kept in a thriving condition and I believe a yield of milk and butter can be better obtained than from any other mode of feeding."

A warm stable, plenty of litter, and daily carding of cattle is true economy.

The *American Short Horn Herd Book* is nearly ready for press, and will shortly be issued. Address Lewis F. Allen, Black Rock, N. Y.

## THE GRAPE CROP OF OHIO FOR 1856.

The grape crop of the Ohio Valley during the past year was a very small one,—probably not more than an average of 80 to 100 gallons to the acre. The severe winter injured many of the vineyards seriously. Some of the vines were killed down to the ground, and about half the buds in others were destroyed. The "rot," or mildew, also injured some of the vineyards very much. But a bad season with the grapes, like other fruits, must be expected to occur occasionally. Experience thus far has proved that the grape is about as reliable a crop as the apple, and perhaps more so.

A fair average crop for a series of years is found to be 250 to 300 gallons to the acre, in well cultivated vineyards in the Ohio Valley. The cost of producing this crop will not exceed $50 to $60 per acre—even less, with proper economy.

This cultivation is largely on the increase all over the west and southwest, wherever the conditions are supposed to be favorable; and the consumption of the wine is fully equal to the production. It is now estimated that there is in Vineyard culture, over 4000 acres in the Ohio Valley. About half this quantity is in the vicinity of Cincinnati, and probably three-fourths are now in bearing. In the Missouri Valley there are about 700 to 800 acres; and in the Upper Mississippi Valley 500 to 600 acres.

In Tennessee, Alabama, South Carolina and Georgia, several vineyards of the Cahawba grape have lately been planted with flattering prospects, thus far, of producing far better crops than those of the Ohio Valley. How they will hold out has yet to be tested.

## A REQUEST.

If any of our friends will favor us with the names of persons in their vicinity, who would like to see a copy of the Journal, we will take pleasure in remitting specimen copies to them. Who will give us lists?

Black Hawk, the progenitor of the celebrated race of horses that bear his name, died at the stables of David Hill, his owner, at Bridgeport, Vt., on Monday, Dec'r 1st. He was foaled in 1833, and was, therefore, twenty-four years old at the time of his death. One of his principal excellencies, was the uniformity with which he stamped his offspring with his own characteristics.

A good colt at weaning—say four months—is worth $28; first year's keep, $12; second year's, $15; next twelve months, $15; which will bring the colt to three years, at a cost of $70. Average value at that age, $90.

KEYSTONE STATE AGRICULTURAL & MECHANICAL
AGRICULTURALS HORTICULTURAL IMPLEMENTS
MODELS OF ALL NEW INVENTIONS
See; who brings you your bread and butter?
Sure enough, but where do you get your implements?
FARMER.
MECHANIC.

$500,000.

FROM FIVE TO SEVEN HUNDRED THOUSAND DOLLARS WORTH OF

RIGHTS

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VALUABLE LABOR SAVING MACHINES,

ALREADY IN

Fifth & Chestnut Sts.

Philadelphia.

This Establishment may with propriety be termed the

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EMPORIUM.

All Mankind are interested in such an enterprise.

☞ Read the STRONG TESTIMONY in its favor, then

CALL, SEE & JUDGE

For Yourself; you will then say with the Queen of Old, *the half had not been told me.*

Jan. 3t

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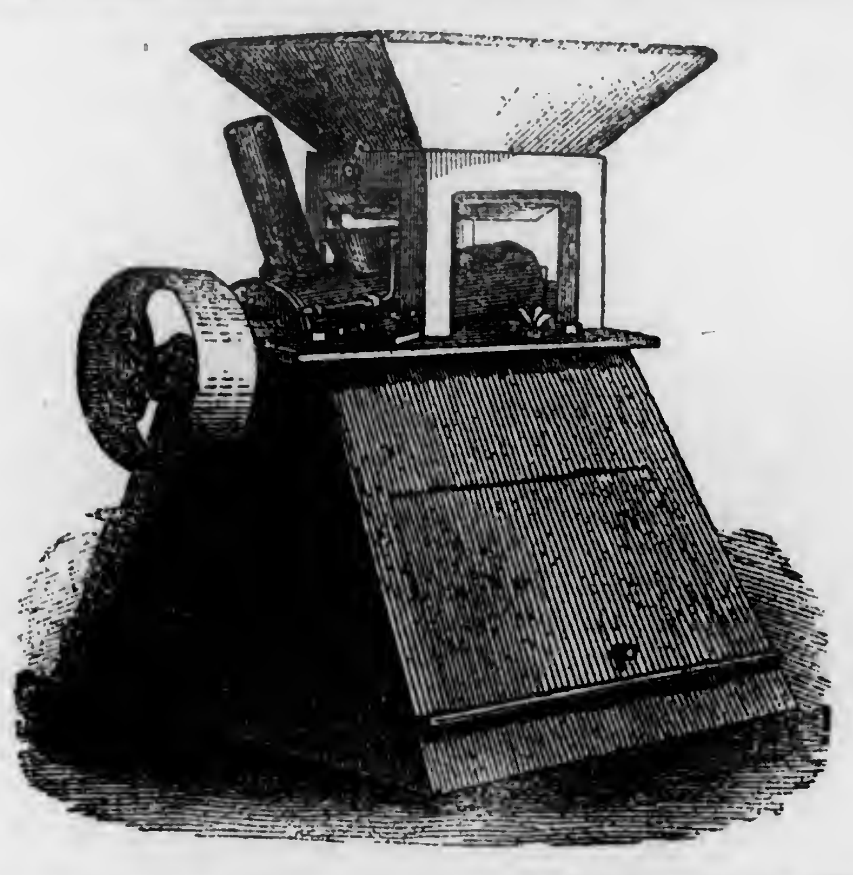
FARMER. MECHANIC.

Jan. 3t

INTENTIONAL SECOND EXPOSURE

# COLEMAN'S FARM MILL



This is the most efficient, simple and durable FARM MILL now in use, and it precisely meets the wants of the farmer, as it is not only adapted to

**GRINDING CORN IN THE EAR,**

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**SHELLED CORN, WHEAT, RYE OR OATS,**

*Fine or Coarse Meal, or Superfine Flour*, if required. It is easily attached to horse or any other power, and will *grind from EIGHT TO FIFTEEN BUSHELS PER HOUR*, according to power and speed. This Mill is constructed on an entire *new principle*, which has never been used, so that it can be run for years without any perceptible wear. In fact, it has proven itself to be the only efficient and DURABLE mill now in use. We invite farmers and dealers to call at our Seed and Agricultural Warehouse, **No. 29 Market Street, Philadelphia,** and see one in operation. This Mill has received the following premiums:

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☞ All Mills sold are warranted to give satisfaction. We are manufacturing three different sizes. Prices—No. 1, for hand power, $10.00; No. 3, for two-horse power, $50.00; for steam or water power, No. 4, $60.00. A liberal discount made to dealers.

ROGERS & BOYER,
Dec—tf No. 29 Market St., Philadelphia.

# CHINESE SUGAR CANE SEED.

This new variety of Sugar Cane Seed, which has proved to be superior to the best Sugar Cane, is now offered by the subscribers for sale in packages sufficient to plant a half an acre, at the low price of $1.00, which with proper cultivation will make from 200 to 300 gallons of syrup equal to the best New Orleans.

ROGERS & BOYER,
*Agent for R. Peters, Seed and Agricultural Store,*
Jan—tf No. 29 Market Street, Philadelphia.

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Rogers & Boyer have now in store a large assortment of their premium

**GOTHIC CORN SHELLERS,**

and are prepared to furnish them Wholesale and Retail on the most favorable terms.

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# STRAW & FODDER CUTTERS,

Of every variety, for sale Wholesale and Retail, by

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# OSAGE ORANGE HEDGES,

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**A large lot of Plants always on haud.**

A full description of these useful and beautiful hedges, with directions for planting, trimming, &c., will be cheerfully given by addressing as above. Jan—tf

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WHITE GRAPE CURRANT SEEDS, saved from our specimen plants in 1856, will be sent prepaid, in packages worth $1.00, to all who enclose that amount.

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MERVEILLE OF FOUR SEASONS. This is a variety which has been fully tested, and was awarded a premium at the N. Y. State Fair, a fine display of fruit being exhibited in the month of October. It is, by far, superior to any of its class. The fruit is as large and as good as the Red Antwerp, and the Autumnal crop is abundant. $6 per dozen.

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## AND SOUTH DOWN SHEEP.

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JAMES THORNTON, JR.
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*Pleasant and Profitable Employment.*—Young men in every neighborhood may obtain healthful, pleasant and profitable employment by engaging in the sale of our useful and popular books, and canvassing for our popular Journals. For terms and particulars, address, post paid,

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No. 308 Broadway, New York.

P. S. All Agents who engage with us will be *secured from the possibility of loss*, while the profits derived will be very liberal.

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# GRANGER'S MAGIC

# CORN AND COB AND MEAL MILL.

## PATENTED SEPT. 18, 1855.

## TO PLANTERS, FARMERS AND STOCK FEEDERS.

Your attention is called to this celebrated Mill, which has received the approbation of the public at the various State and County Fairs, 1856, and which has taken the first Premium over all other Mills at the following State and County Fairs:

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The construction of this Mill, and which renders it superior to others, are these:—It grinds Corn and Cob finer, requires about one-half the amount of power of other Mills, and by the use of Friction Rollers at the base of the outer Shell, it prevents the fine teeth coming in contact, (which they do in other Mills); and after YEARS of use, can be repaired at an expense of $3.00, making it equal to a new Mill. It is not injured if worked when empty. These facts and the superior Castings, make this Mill, beyond all doubt, superior to all others.

For further information, apply to the manufacturers,

**CRESSON, STUART & PETERSON,**
**Willow Street above Thirteenth,**
PHILADELPHIA.

**PASCHALL MORRIS & CO.,**
AGENTS FOR THE ABOVE MILL,
**Corner of Seventh and Market Streets.**

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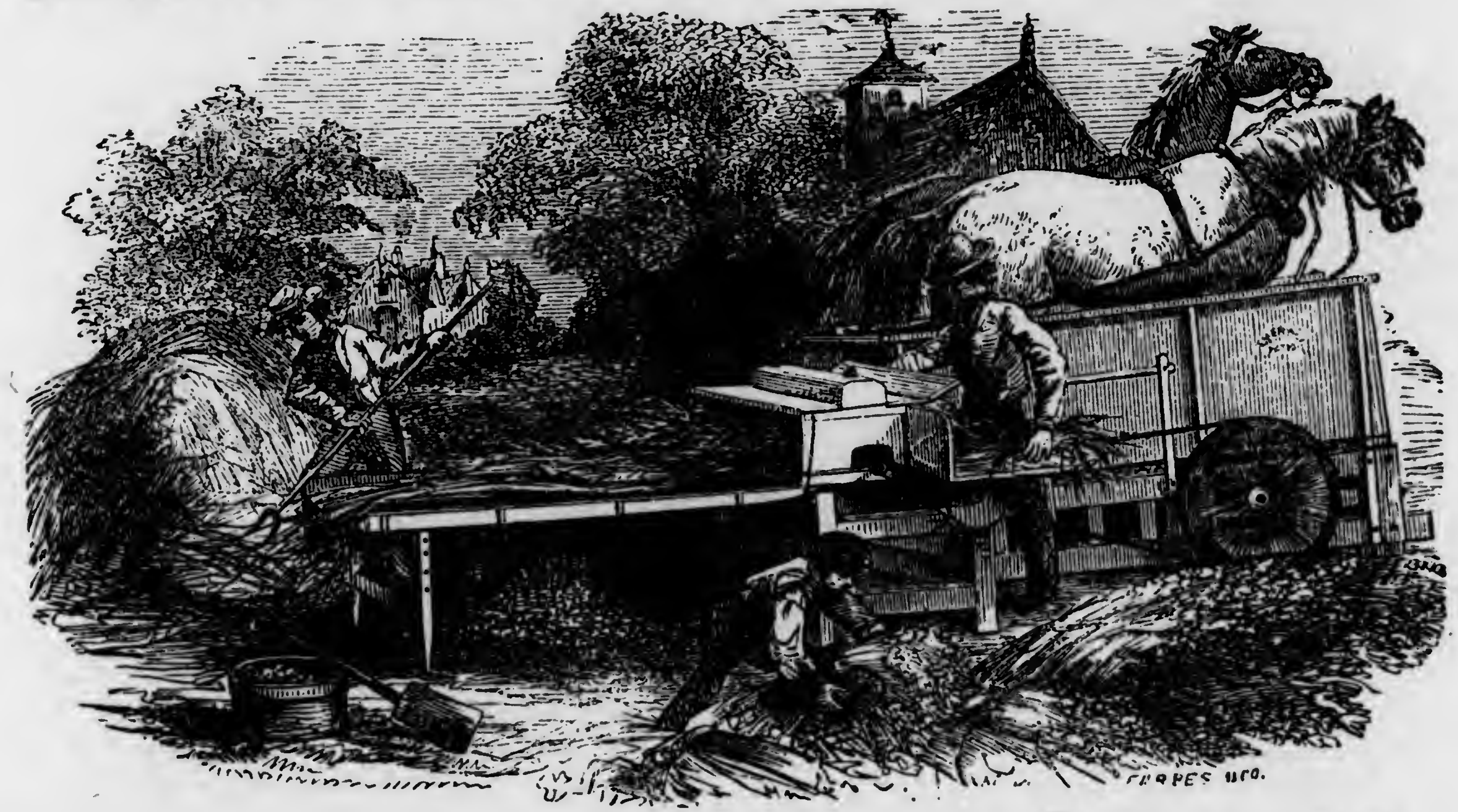

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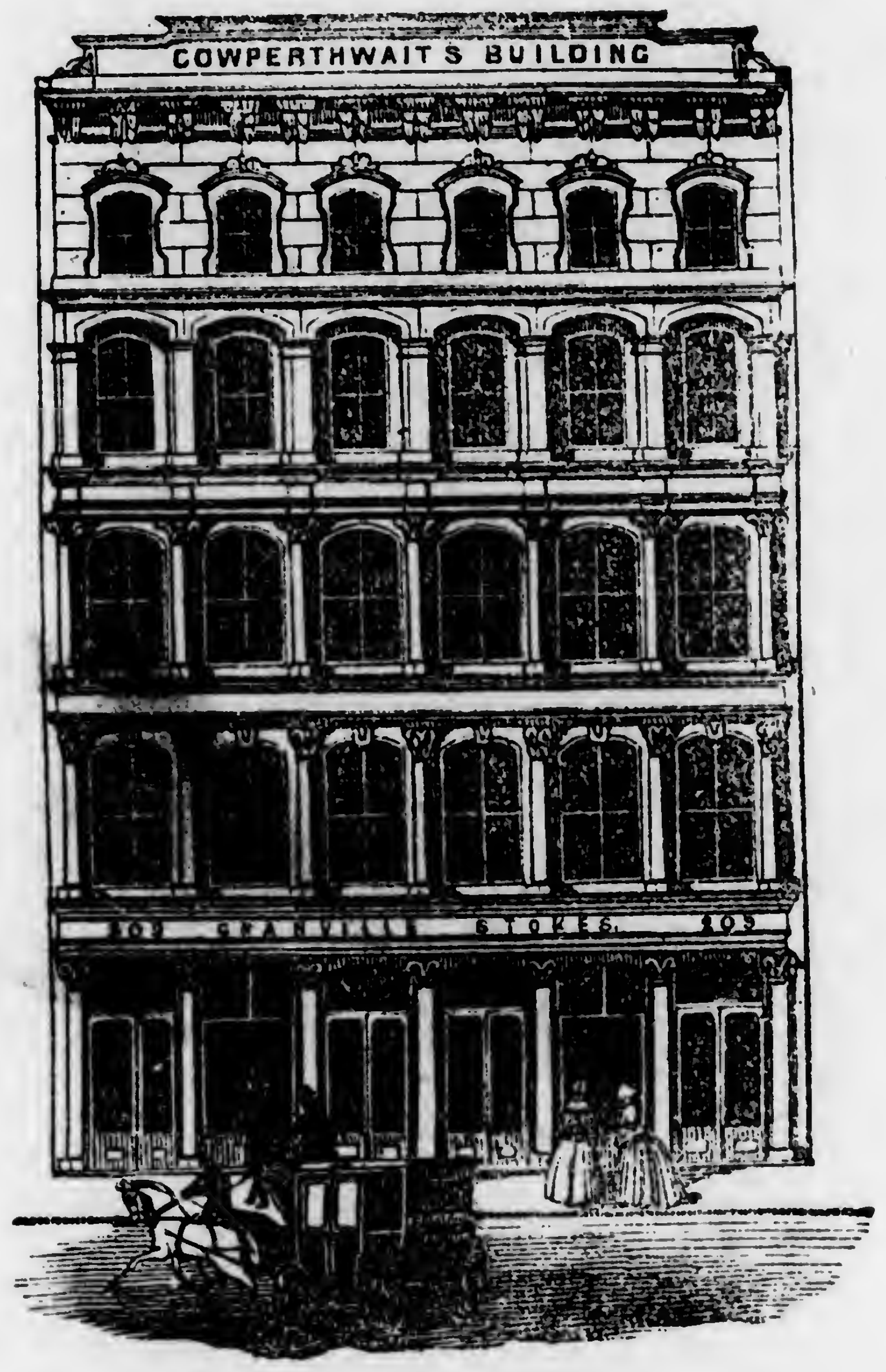

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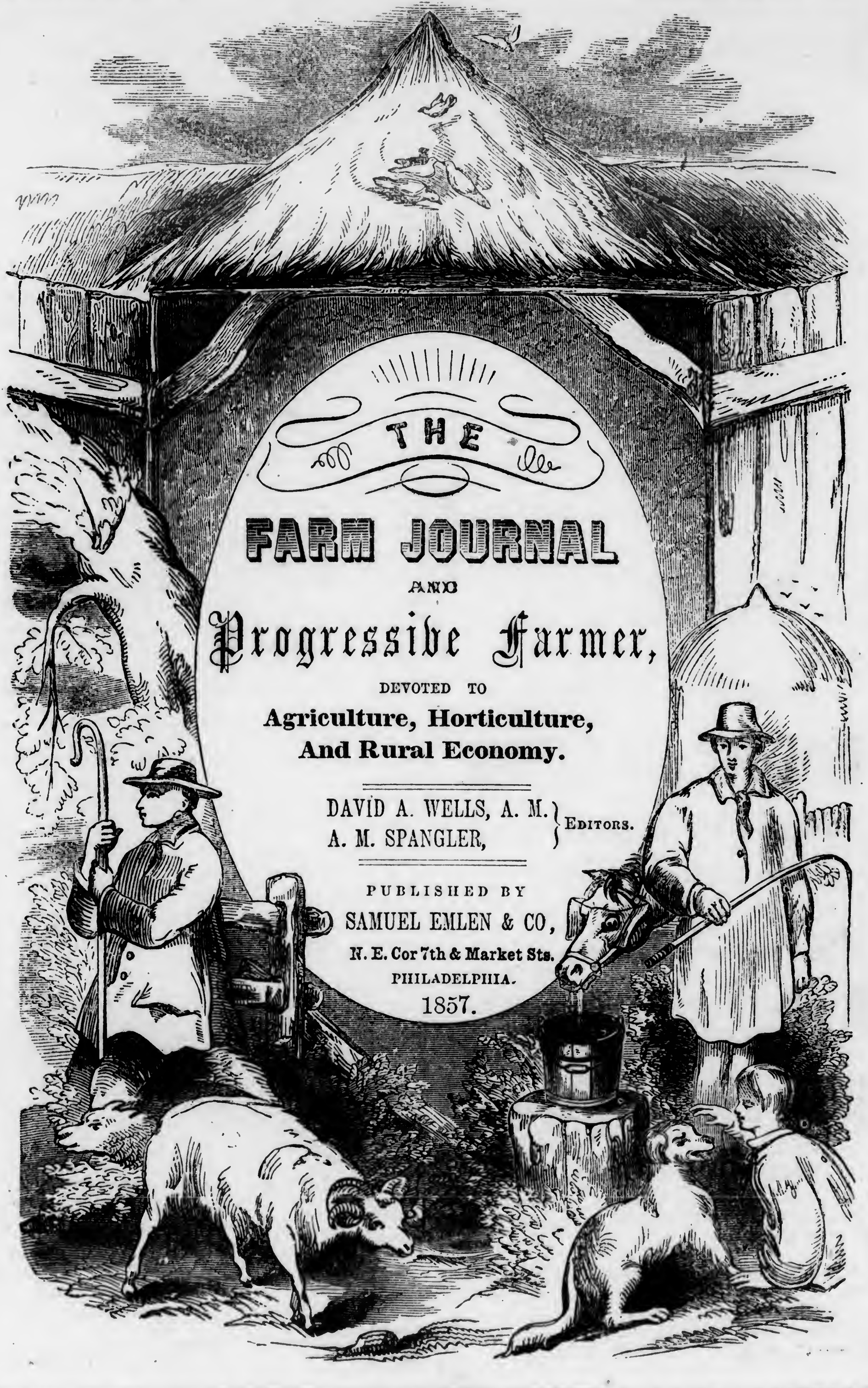

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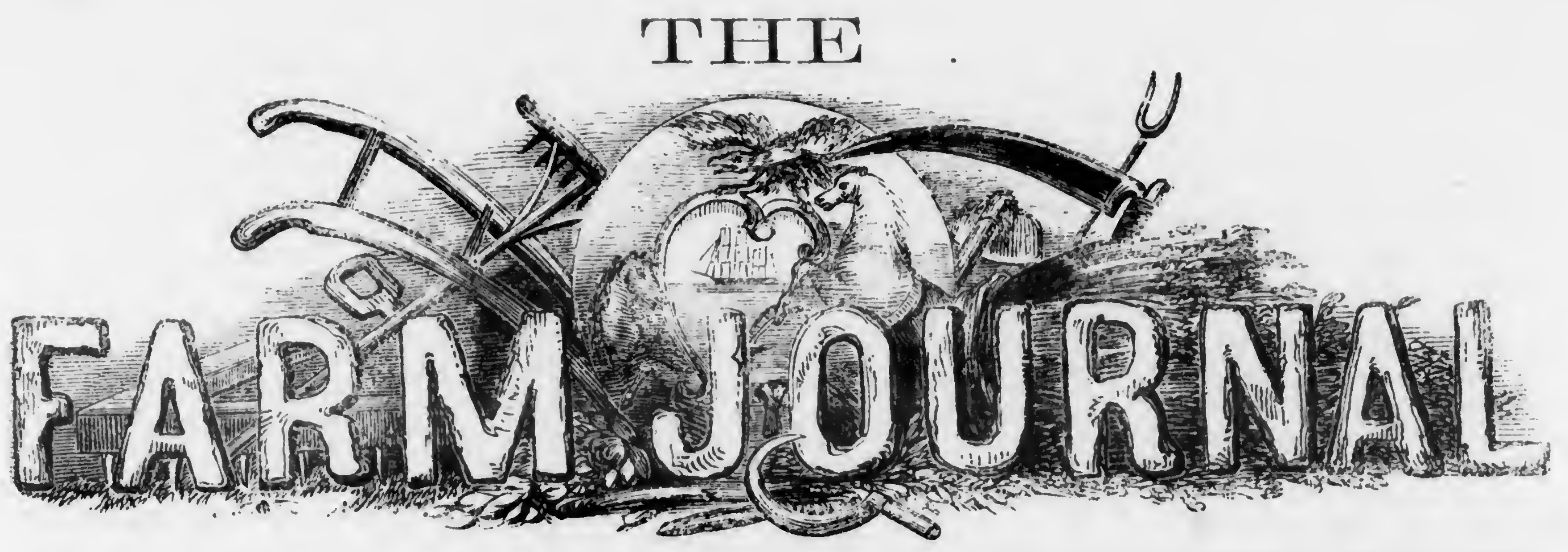

# THE FARM JOURNAL

VOL. VII. PHILADELPHIA, FEBRUARY 1, 1857. No. 2.

For the Farm Journal.

## THE ORIGIN AND DIVERSITY OF SOILS.

BY HARLAND COULTAS.

In our last paper we stated that the mineral masses or rocks which compose the crust of the earth, although deposited horizontally, have, owing to earthquakes which have repeatedly taken place, and at vast intervals of time, been all more or less disturbed and thrown into an inclined and sometimes vertical position, and that this is the cause of those inequalities which the earth's surface everywhere exhibits, of the abrupt precipice, the dark and fearful ravine, or the more graceful undulations of the landscape as seen in hills and valleys. We also remarked that these rocks are covered by accumulations, more or less deep, of loose materials, forming the fruit bearing soil.

That the rocks whose surfaces are now covered with deposits of loose and scattered material, were once naked and without such covering, and that soils have been produced *slowly* in consequence of the natural degradation or wearing away of the crust of the globe, will we think be evident from the following scientific facts:

The earth is surrounded by an atmosphere which effects the decomposition of rocks not only when disturbed by storms, but whilst in a condition of comparative repose. The atmosphere acts on the rocks in two ways, mechanically and chemically.

The atmosphere acts on the rocks mechanically, when water is precipitated from it in the form of rain. All who have witnessed a heavy shower in a chalk or limestone district know that rain beating on the surface of rocks is a powerful agent in effecting their destruction. If the rain is accompanied by wind it receives an impulse which adds greatly to its destructive power, and the rocks exposed to its influence are, geologically speaking, weathered; their sharp points or angles are rounded off, and such portions of them as are soft and yielding are excavated or hollowed out into caverns and arches.

The water precipitated from the atmosphere following its well known tendency to gain a common level, collects into streams and rivulets, which running down the sides of the hills and mountains, carry with them the product of their operations in the form of large quantities of disintegrated material, which they deliver with their contents to the main river into which they discharge their waters. The turbid and swollen appearance of rivers after long-continued rains, is a sight with which all are familiar. In this manner a river becomes the vehicle of matter which prior to the storm constituted the substance of the hills and mountains through which it flowed, and which it delivers, together with any animals and plants which may have fallen into its stream, to the sea or lake into which it finally flows.

But all the water that falls on the land does not immediately flow over its surface. Some of it penetrates the masses of rock that are at all porous and filters through their fissures. In winter its temperature is lowered, congelation or expansion follows by which the cohesion of the rock is destroyed, and additional fissures are produced. Whilst in the frozen state the ice acts as a cement, connecting the dissevered fragments with each other, but as soon as the weather becomes milder and a thaw commences, the fragments separate, and the slightest force, current of water, a gentle wind or even their own weight suffice to ensure their fall. In this manner, slopes of disintegrated material in the course of ages collect at the foot of cliffs and cover the sides of hills and mountains where the surface of the rocks are exposed. These dissevered fragments are of all sizes, from small gravel to blocks of many tons in weight, their angular character and mineral composition proving them to have fallen from the neighboring cliffs. All who behold the hill or mountain side strewed with immense blocks of material transported from distant summits, and the dells and valleys filled with the fragments and pebbles of the neighboring rocks, must necessarily see in these phenomena a regular system of decay and disintegration.

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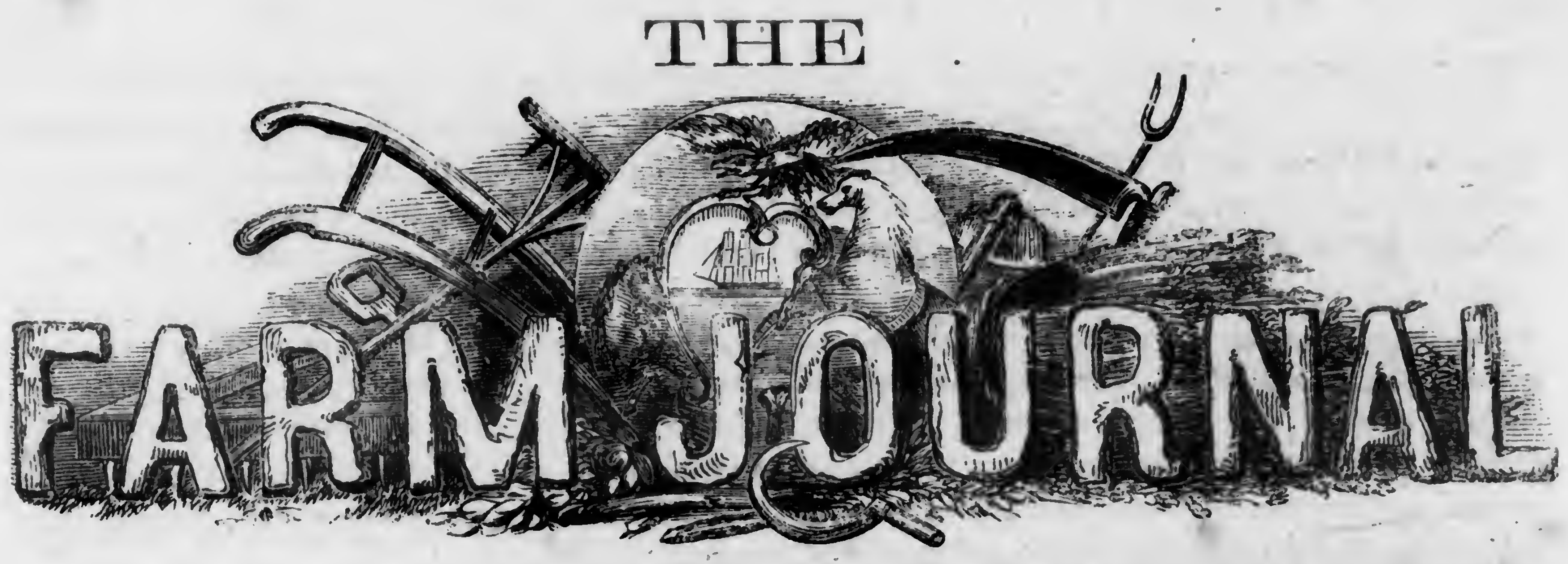

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The atmosphere acts on the rocks mechanically, when water is precipitated from it in the form of rain. All who have witnessed a heavy shower in a chalk or limestone district know that rain beating on the surface of rocks is a powerful agent in effecting their destruction. If the rain is accompanied by wind it receives an impulse which adds greatly to its destructive power, and the rocks exposed to its influence are, geologically speaking, weathered; their sharp points or angles are rounded off, and such portions of them as are soft and yielding are excavated or hollowed out into caverns and arches.

The water precipitated from the atmosphere following its well known tendency to gain a common level, collects into streams and rivulets, which running down the sides of the hills and mountains, carry with them the product of their operations in the form of large quantities of disintegrated material, which they deliver with their contents to the main river into which they discharge their waters. The turbid and swollen appearance of rivers after long-continued rains, is a sight with which all are familiar. In this manner a river becomes the vehicle of matter which prior to the storm constituted the substance of the hills and mountains through which it flowed, and which it delivers, together with any animals and plants which may have fallen into its stream, to the sea or lake into which it finally flows.

But all the water that falls on the land does not immediately flow over its surface. Some of it penetrates the masses of rock that are at all porous and filters through their fissures. In winter its temperature is lowered, congelation or expansion follows by which the cohesion of the rock is destroyed, and additional fissures are produced. Whilst in the frozen state the ice acts as a cement, connecting the dissevered fragments with each other, but as soon as the weather becomes milder and a thaw commences, the fragments separate, and the slightest force, current of water, a gentle wind or even their own weight suffice to ensure their fall. In this manner, slopes of disintegrated material in the course of ages collect at the foot of cliffs and cover the sides of hills and mountains where the surface of the rocks are exposed. These dissevered fragments are of all sizes, from small gravel to blocks of many tons in weight, their angular character and mineral composition proving them to have fallen from the neighboring cliffs. All who behold the hill or mountain side strewed with immense blocks of material transported from distant summits, and the dells and valleys filled with the fragments and pebbles of the neighboring rocks, must necessarily see in these phenomena a regular system of decay and disintegration.

INTENTIONAL SECOND EXPOSURE

The vertical or exposed surface of rock produced when strata crop out, is called by Geologists an *escarpment*, and the slope of disintegrated material which forms at its base a *talus*, and the degree of vertical section, together with the amount of talus accumulated enables us to form, in an approximate degree, a somewhat correct estimate of the relative ages of the several sections. Without quitting the same mountains or hills a number of natural sections may be found where this course of degradation and accumulation is still going on, and, where the process is more or less complete. By visiting these different sections and comparing them with one another, we obtain an insight into the whole process. We see by the differences in the amount of vertical section yet exposed what has been done and what remains to be done, that in the course of ages the talus of fragments has slowly accumulated at the basis of the cliff, and will continue to accumulate up to the very summit of the section, which will then disappear altogether, vegetation will then develop itself and instead of a cliff there will be a hill-side occupied by woods, by pasture or by tillage. Traces of these operations may be observed almost everywhere, especially in mountainous districts, and resistless is the proof afforded by them, that many ages must have elapsed before such a state of things could have been produced, and that the land and sea must have been separated from each other at an era far more remote from the present time than is commonly supposed.

When masses of rock are thus loosened from their original beds they become new and powerful agents of destruction. They roll down the sides of the precipices, wearing themselves and the surfaces over which they pass, and the detritus thus borne out to sea by the rivers, forms bars and islands at their mouth and becomes a part of the mighty artillery with which the ocean assails the land. The detritus or fragmentary rock impelled against the coast by the violence of the waves, adds new vigor to every onset of the sea on the rocks which line the shore, which presenting a barrier to their further progress drive them back foaming with fury; again the sea collects her strength and returns to the charge. Where the rock is soft the progress of the angry and contentious element is proportionably rapid, but if it be hard and compact, the combat between the sea and land may be kept up for thousands of years. Piece after piece is, however, broken and detached, and effectually pulverized by the flux and reflux of the invading waters, and the work of destruction goes on slowly but surely, till finally the whole of the rocky barrier is swept away, and the bold waves roll triumphantly over the prostrate enemy.

But the atmosphere acts on the rocks chemically as well as mechanically, and this influence which is secret and unobserved, but, nevertheless, most powerful because continuous, produces in the course of ages by far the greatest amount of change. The occasional paroxysms of nature in the volcano and earthquake, or when the air is agitated by storms, and the rain descends in torrents are less destructive, than the silent, imperceptible influence of the atmosphere operating continuously through vast periods of time.

Oxide of iron, clay, and lime enter into the composition of most arenaceous or silicious rocks, acting the part of a cement and binding the particles of the rock to each other. The lime and the oxide of iron in such rocks have a tendency to unite, the first with the carbonic acid in the rain water which falls upon them, and the last with the oxygen of the atmosphere. These matters being thus detached, the cement is in a measure removed, and the rock falls to pieces, or is broken down by the wind and rain, frost, and other mechanical agents. In this manner the equilibrium of the elements which enter into the composition of rocks is destroyed by the chemical influences of the atmosphere even when it is in a state of comparative repose, and the hardest aggregates of our globe are thus ultimately reduced to powder and rendered fit for soils.

These chemical influences affect not only the works of nature but those of man. We may retard the operation of the laws of decay but we cannot suspend them. The most enduring monuments of the genius of man, his palaces and pyramids, or the lofty column which tells of the struggles of the past to future generations, may for ages defy the stroke of the lightning, and the storms of the atmosphere, but they shall be conquered by its quiet and imperceptible influences, by its gently descending dews and the disintegrating power of its oxygen as time rolls on. Their beauty and strength shall disappear, and other generations shall look on their ruins, and the humble moss and lowly lichen shall feed on their broken and dissevered fragments.

Causes thus appear to be in operation sufficiently powerful to have covered the globe with those loose and scattered materials which constitute the substratum of our soils, and form, in fact, the nidus on which vegetation develops itself. Geologists, after carefully comparing the rocks of different countries with one another, and the soils of various districts with the rocks on which they rest, have come to the conclusion that soils, generally speaking, have been formed by the crumbling or decay of solid rock, and that the accumulation of the masses of loose material constituting the soil is the result of the slow degradation or wearing away of the crust of the globe.

Soils which have been derived from the crumbling of the subjacent rocks, partake necessarily of the chemical composition and character of the rock on which they rest; if the rock be a sandstone, the soil is sandy, if it be a limestone the soil is calcareous, if a clay-slate, it is more or less stiff and argillaceous, and if the rock consists of any peculiar mixture of these three substances, a similar mixture is observed in the soil. In this case if we are acquainted with the prevailing rock of the district, we are enabled to predict the general character and capabilities of the soil on which it rests.

In other instances the soil rests on a covering of drift materials and has no relation whatever in mineralogical or chemical character to the subjacent rocks. Nearly all the coal fields are in this case.—This drift material consists of matter washed down from pre-existing rocks and transported by waters, winds, and such geological agents as we have already noticed. Most of the heaps of this transported matter is in too finely a divided state to permit us to say from whence it has been derived, but fragments of greater or less size are always to be found even among the clays and sands which are sufficient to point out to the skilful Geologist the section from which the whole has been brought, and often the very rocks from which the entire accumulation has been separated.

When the substratum of the soil has thus been formed, vegetation slowly develops on its surface.—The first vegetable denizens are usually Cryptogamous plants, such as crustaceous lichens; these are succeeded by the foliaceous species and by such plants as are of very humble growth and exceedingly simple structure, such as mosses, Saxifrages and Arenarias. The oxalic acid contained in the lichens, together with the oxygen of the atmosphere, slowly disintegrates the rocky surface, and succeeding generations of these lowly protophytes, by decaying on the rock, finally create a humus, which gives birth to a more highly organised vegetation. A grassy mantle now clothes the surface, and humble herbaceous plants which die annually, are succeeded by ligneous plants, such as shrubs and forest trees, which endure for centuries, and shed the foliage with which they are annually adorned on earth. In this manner a rich vegetable mould is formed. The settler comes and fells the forest; the log-cabin rises, and soon the industry of man changes the face of nature; flourishing towns and cities cover the country, and the earth yields to his skilful agriculture from her fruitful bosom, those riches which have been deposited there, by her natural agents, through the lapse of ages.

For the Farm Journal.

## THE EDUCATED FARMER.

The cultivation of the soil and its kindred branches, holding the first rank of industry as they do, although laborious and despised by many, present pleasures to the true student of Nature, of which the superficial observer is ignorant. The mere toil without a knowledge of the true and correct principles applicable to good farming, is certainly unsatisfactory enough; the mind as well as the body of the farmer should be occupied with his pursuit; his occupation deserves and demands study as well as medicine, law, or divinity, and he is found to be successful in proportion to the stock of actual knowledge he has acquired. Chemistry, geology, and botany have much to do with his business, and our daily experience must be convincing to all reflecting minds that these branches are indispensable with a true and correct system of agriculture. It is true that thousands stir the soil without having the remotest idea of any of these branches, and some raise good crops by mere chance and favorable circumstances, copying in many cases their more enterprising neighbors without having candor enough to acknowledge it, and not unfrequently we can meet a farmer who in his humble way by accident does a thing scientifically without being aware of the fact.

Among this class of farmers, we find the men who believe in the transmutation of wheat into cheat, and timothy into other grasses, and in such like absurdities. With the studious farmer, these things are different; he is ready to prove by correct reasoning, that all plants are produced from seeds, roots, and slips "after their kind;" he studies from Nature, compares his experience with the labor of those who devoted their whole lifetime to study subjects correctly, and is always ready to yield when he is found wrong; he looks at things in Nature's own way, and imitates them as near as it is in his power; he finds pleasure in all things connected with the farm—to him the well-fed, sheltered, clean, gentle, ruminating cow presents an emblem of peace and contentment—the well-trained beast of burden is an emblem of obedience—the fine poultry gladdens his heart by their graceful movements, while the wide-spread and thriving fields of grass and grain fill him with profound joy and pleasant feelings; nature is to him a powerful stream by which he overcomes all provocations that encounter him, and he escapes in peace. K.

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THE Ohio *Cultivator* says, "large farms half tilled, have been the curse of the west." The same remark would apply with equal force to other sections of the country.

For the Farm Journal.

## COMPARATIVE VALUE OF MEXICAN GUANO.

MESSRS. EDITORS:—The subject of fertilizers is one which has recently claimed a very considerable portion of the attention of the farming community, and as all will agree, very properly. There is no other subject connected with farming, a thorough knowledge of which is more important, or so generally wanting. Comparatively few farmers are sufficiently advanced in scientific knowledge to enable them to make, or even perfectly understand, the analyses of manures given by chemists. Consequently, the vast majority are prepared to adopt or reject them, not upon a correct knowledge of their merits or demerits, but upon opinions based perhaps upon hearsay evidence, or upon impressions gained from reading the inflated pamphlets which are so profusely circulated by parties interested in the sale of the various phosphates, guanos, &c. For the reasons thus briefly given, as well as for many others which might readily be adduced, it appears to me that everything bearing upon this subject should possess a deep interest for every farmer.

So many frauds have been, and are now being perpetrated in the manufacture of fertilizers, that it is impossible to throw too many safeguards around the consumer. Our agricultural periodicals have to some extent taken hold of the subject, but not with the vigor and energy which characterize the tone of the English periodicals. For some years past, the English farmers have been victimized in this same direction, and to such an extent, that protective associations have been formed, and accurate analyses made of every manure offered for sale. These analyses are made the property of the members of the association, and the result is, they are enabled to determine the relative value of each, and make their purchases accordingly. Unless some of our manufacturers of superphosphates become more honest, such associations must become an absolute necessity with us; analyses will have to be made by competent men, and the worthlessness or value of each kind offered, will be thoroughly understood. With a view to helping the matter a little, allow me to present to your readers a few extracts in relation to an article the merits of which as a fertilizer have been highly extolled, as well by some of our most distinguished chemists, as by those who are interested in the sale of it. Mr. Nesbit, who is the author of the extracts given, is, as is well known, one of the most distinguished English agricultural chemists, and is the Principal of the Agricultural and Chemical College at Kennington, near London. His opinion upon other highly scientific points has been found worthy of confidence, and although he differs widely from some of our own chemists in relation to the value of Mexican guano, it may be a matter of interest and value to your readers to know what the views of distinguished men on both sides of the water are in relation to an article which has already so largely been used by them. The Boston Cultivator, in referring to Mr. Nesbit's investigations, says:

"It is probable, however, that Mexican guano has some value as a manure; and to show what this value is, we refer to a comparative estimate made by Prof. Nesbit, the Principal of the Agricultural and Chemical College, Kennington, near London. In a lecture lately delivered by this gentleman, he stated, as the result of careful investigations which he had made, that Peruvian guano might be put down at £13 12*s.* ($68) per ton; Bolivian guano, £7 19*s.* ($39.75) per ton; a good sample of superphosphate of lime, £6 18*s.* ($34.50) per ton; 'a substance lately introduced into commerce, called *Mexican guano*,' £2 9*s.* ($12.25) per ton.

"The value here put on Peruvian guano is somewhat more than the market price of the article in this country, but the comparative value of the articles named is not affected by this estimate. It will be seen that the value of Mexican guano is less than *one-fifth* that of Peruvian. And yet this value of the Mexican is said by Prof. N. to be 'practically lessened by the large quantity of carbonate of lime contained in the sample.' It has therefore been sold in this country for more than thrice its real worth, and in England at a still higher rate—£8 to £9 ($40 to $45) per ton.

"Prof. Nesbit gives the following table as comprising the nearest approximate value of the several manuring matters in the articles above mentioned:

| | Multipliers of Value. | | |
|---|---|---|---|
| Nitrogen | £70 | ($370) | per ton. |
| Ammonia | 60 | (300) | " |
| Phosphate of lime | 8 | (40) | " |
| Phosphate of lime made soluble | 24 | (120) | " |
| Organic matter | 1 | (5) | " |
| Alkaline salts | 1 | (5) | " |
| Sulphate of lime (gypsum) | 1 | (5) | " |
| Silica | | No value. | |
| Carbonate of lime | | No value. | |

"The following rule is adopted by Prof. N. in calculating the value of manures:

"'Consider the analysis to represent the components of one hundred tons. Multiply the respective amounts of each ingredient by its price per ton in the preceding table, add up the several products, and the sum will represent the value of one hundred tons. Divide this amount by one hundred, and the quotient will be the price per ton. The decimals in the analysis below 0.5 may be disregarded, and those above that amount reckoned as an additional unit.'"

P.

For the Farm Journal.

## COOKED FOOD FOR CATTLE.

MESSRS. EDITORS:—It is surprising how little attention has been given by farmers to the relative value of cooked and raw food for their stock. There is scarcely any subject of greater importance to them, and yet scarcely one which has attracted so little of their attention.

It is a conceded fact that the quality of almost every kind of vegetable food may be greatly improved by first subjecting it to the process of boiling or steaming. Boiling removes the indigestibility of many vegetables. The minute particles of which they are composed are separated by the process. This separation naturally causes the presentation of a larger amount of surface to the action of the juices of the stomach, which can tend only to the benefit of the animal.

It is said, and almost every day's experience sustains it, that cooked food gains largely in point of nutrition. Unless this were the case, it would be poor economy to incur the expense and trouble of cooking food for stock, and even human beings might advantageously dispense with this troublesome and expensive part of household economy. We all know that many articles which are unpalatable, and decidedly innutritious, when subjected to the action of boiling water, become not only palatable but nutritive in the highest degree. Raw potatoes furnish but a sorry article of diet, but who is not prepared to endorse the good qualities of well boiled or roasted ones. Many other vegetables might be instanced whose value for human food is immensely improved by the process of cooking. Why should not this improvement be applied as well to the animal?

In many instances the inattention to this subject, has resulted not from a want of disposition to improve upon old plans, but from a want of knowledge that such great results were of such easy attainment. There are many farmers who would at once adopt the system of giving their stock cooked food, were they but aware of the fact, that by so doing they would greatly economize it; while others who are aware of its advantages do not pursue it, because of the difficulty of procuring the necessary apparatus. For the first of the difficulties there is no other remedy than for the unenlightened man to seek the necessary information. He will find it in any well conducted agricultural periodical. For the second, I presume it will not be out of place to state that for several years I have used one of Mott's patent boilers, and take great pleasure in recommending it to such as are in search of a really good article—an article in fact, which no farmer should be without, even if he does not cook the food for his stock.

A word more and I have done. When men grow old, and their teeth decay, soft food is absolutely essential to them. Not having the means for masticating hard substances they are compelled to assist nature. How is this generally done? Generally by the use of food which has previously been softened by boiling or some other process of cooking. Now, Messrs. Editors, animals grow old, and their teeth decay. Is it any less necessary to their comfort and improvement that their food should be so prepared as to correct this difficulty than it is in the case of the human being? Perfect mastication is an indispensable requisite of perfect digestion, and perfect digestion is one of the highest and most desirable objects which can be sought or attained by the stock farmer.

A writer upon this subject says: "It is well known that in the case of colts there is frequently difficulty of dentition, causing feverishness, loss of appetite and diarrhœa. When such is the case and the gums of the animal become either inflamed or ulcerated, mastication is seriously and often ruinously interfered with; digestion is of course but imperfectly performed, and the diseases above named are the result. Boiled food would obviate this difficulty to a very great extent. The same reasoning will apply with equal cogency to animals of all ages, but especially to those considerably advanced, whose teeth have suffered from natural decay or accidental causes. For if the food of which an animal partakes is thoroughly digested it is more readily assimilated, and consequently much more efficacious in promoting its health and vigor."

With these facts before us, it is submitted whether it is not true economy to give our stock boiled food. I have tried it, and like it so well that I shall continue it.

J. J. B.

THE temperament of animals is always shown by their color. An animal of different colors always possesses superiority of temperament.

THE best plan to make cattle vicious and jumping, is to have very fine feed just the other side of a very poor fence.

IF you would fatten your cattle profitably and well, give them plenty of good wholesome air, plenty of rest, a nice clean resting place, do not disturb the naturally quiet state of their minds, and finally, give them plenty of good nutritious food, properly prepared. If you feed grain, let it be crushed and cooked; if hay or fodder, let it be cut.

KEEP the legs of your horses clean—dirt is productive of disease.

For the Farm Journal.

## THE COMPARATIVE MERITS OF DRILL AND BROADCAST SEEDING.

Messrs. Editors:—In a former number of the Journal I was much pleased with the substance of an article on "Drills and Drill Seeding." That circumstance, connected with the fact that the comparative merits of Drill and Broadcast Sowing, was announced as the subject of discussion for the December meeting of the Philadelphia Agricultural Society, led me to make some investigation in regard to the subject of Drill Seeding, and in the course of my reading, I met with the annexed extract, which, to my mind, contains much that is valuable in the way of suggestion at any rate. If you think your readers sufficiently interested in the subject, to give these extracts a perusal, you will oblige a subscriber by giving them an insertion.

"On a first consideration it certainly appears that the ultimate position of plants in a field ought to be equidistant—thus giving to each equal shares in soil, air, sunshine, &c.,—and that they ought to be placed at such intervals, that the number of plants in connection with the produce of each shall be a maximum per acre. This is obviously correct enough in theory, and the determination for each class of circumstances, whether of soil or climate, of the exact distance for each kind of plant, or which *neighborhood* shall, by increasing the number of plants, best compensate for the diminished produce per plant, which it also occasions; at which, in short, this produce per plant, multiplied by the number of plants per acre, shall be a maximum, is a point of very great agricultural importance. But a theory which puts out of its regard some of the most obvious facts in the farmers experience, cannot lead to exact agricultural practice. Were the soil, the air, and the seeds of the wished-for crop the only matters claiming attention, the equidistant plan would be correct; unfortunately, however, seeds of many kinds exist self-sown in the soil, and these spring up, and, if allowed, will compete with the cultivated plants, to the great detriment of the latter; and thus it is, that in practice, and in order to facilitate the destruction of the natural produce of the soil, we generally modify this equidistance of plants, so that instead of each being in the centre of its own little square, they shall grow in lines nearer to one another *in* those lines, but further from one another *across* them; and thus, while their number per acre remains unaltered, the interlinear spaces give opportunity for the use of fallow implements.

"But the position of seed *on* the soil, is not the only point requiring attention; its position *in* the soil is of equal importance. If by broadcasting seeds, which is still a common practice in the case of grass seeds, clover, and even the sereal grasses, we could insure a perfect equidistance of the individual seeds upon the surface, that would still be an imperfect result, not only because absolute equidistance in a weedy soil is not desirable, but also, and far more, because no method would then present itself of insuring the uniform covering of the seed. In practice, the farmer sows an additional bushel or more of wheat, and even more of other grains per acre, when he sows it broadcast, than when he sows it in rows, for he knows that the use of the harrow is a very imperfect plan of evening the seed—some seeds being thus buried too deeply, some not deep enough, and a good deal, not at all; and for the additional risks it thus undergoes, a large margin has to be provided in the sowing.

"An uneven sower should be provided with more seed than a good one will need, because the latter will, at all events, insure over the whole surface a tolerably equal distribution of seed; while the former, wasting his allowance in some places, will need an extra quantity for those which otherwise would not have their proper share; and a *machine* for sowing broadcast, will require less than either, because it will scatter perfectly; but those machines which not only *place* their seed upon the surface, but at the required depth beneath it, will, evidently, require less still, for with them, uniformity in all respects is insured, and no waste by unevenness. And, therefore, occasional excess, either in surface distribution, or in distribution through the depth, is incurred. Dibbling machines and drills are thus the most efficient and economical of our sowing machines. Their cost is, no doubt, considerable, but the saving of seed effected by them, and still more the vigorous growth of the seed they deposit with such uniformity, is more than a sufficient return for the investment."

I am aware, Messrs. Editors, that there are those who cling with strange pertinacity to the old broadcasting method, notwithstanding the experience of their neighbors with the drill has clearly demonstrated its superiority. We all remember the heavy rain, followed by severe frosts and snow, of last winter. The ground was thoroughly saturated, and before the surface water disappeared or was absorbed by the earth, the sudden change in the temperature arrested its descent. The drill rows of fields seeded with drill machines, were filled with ice, which, it is contended by some of the broadcasting farmers, did the crop serious injury—more injury in fact than in fields where the seeding had been done broadcast. But as a reply to this, I would remark, that I saw broadcasted fields which suffered from the causes named above, fully as much as the drilled ones, and I feel very much assured, that the experience of those who have fairly and practically tested the comparative merits of Drilling and Broadcasting, will prove the decided superiority of the former.

P. D. B.

*Philadelphia Co., Jan'y* 3, 1857.

For the Farm Journal.

## "HALF AN HOUR WITH JETHRO TULL."

Messrs. Editors:—It is refreshing at times to spend an hour or two with the early writers on agriculture, and with none can such hours be more pleasantly spent than with Jethro Tull, the author of the celebrated work on "Horse-Hoeing Husbandry," and the father of the Horse-Hoeing System. I say pleasantly, and I may with propriety add, profitably, for no farmer can read the essays of Tull and not be benefited by them. I have just been looking over his book, and with your permission will make a few extracts for the readers of the Journal.

"The finer land is made by tillage, the richer will it become, and the more plants will it maintain."

There, good reader, "put that in your pipe and smoke it." There is a world of truth in that brief sentence, and you may spend your time more unprofitably than in committing it to memory, or what would be better far, putting it into practice.

"It has been often observed, that when part of a ground has been better tilled than the rest, and the whole ground constantly managed alike, afterwards, for six or seven years successively, this part that was but once better tilled, always produced a better crop than the rest, and the difference remained very visible every harvest."

I have had the experience of a multitude of instances which confirm it so far, that I am in no doubt that any soil (be it rich or poor) can ever be made too fine for tillage.

"Hard ground makes a too great resistance, as air makes a too little resistance to the superficies of roots."

"Dung, without tillage, can do very little; with some tillage, does something; with much tillage, pulverizes the soil in less time than tillage alone can do; but the tillage alone, with more time, can pulverize as well."

"Till a field in lands. Make one land very fine by frequent deep plowings, and let another be rough by insufficient tillage, alternately; then plow the whole field cross-ways in the driest weather, which has continued long, and you will perceive, by the color of the earth, that every fine land will be turned up moist, but every rough land will be dry as powder from top to bottom."

"I have been informed by some persons that they have often made the like observations; that, in the driest of weather, good hoeing procures moisture to roots, though the ignorant and incurious fancy it lets in the drought, and, therefore, are afraid to hoe their plants at such times, when, unless they water them, they are spoiled for want of it."

"To demonstrate that dews moisture land when fine, dig a hole in the hard dry ground, in the driest weather, as deep as the plow ought to reach, beat the earth very fine, and fill the hole therewith, and after a few nights' dews, you will find this fine earth become moist at the bottom, and the hard ground all around will continue dry."

There, Mr. Editor, I have quoted enough from old Jethro to furnish food for an hour's reflection to any of your readers. If they will digest properly what is presented above, and carry it out in practice, they will be ready to admit that Jethro Tull, whatever may have been his errors in other directions, had a consummate knowledge of the advantages arising from "thorough tillage."

Yours, D. Barnard.

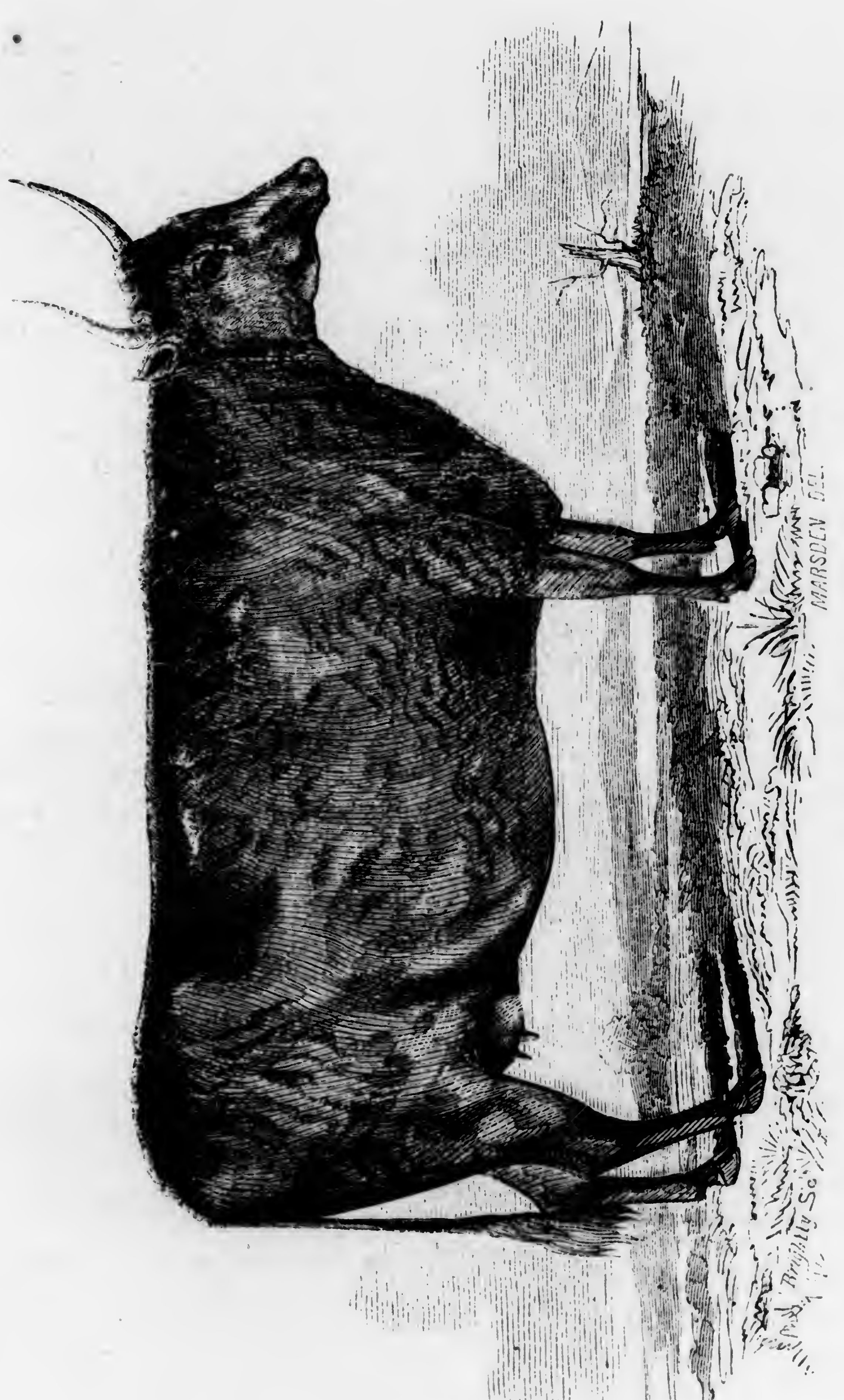
*January*, 1857.

## TREES RECEIVED FROZEN.

Packages of trees, sent long distances late in autumn, and arriving frozen in winter, are often needlessly sacrificed by the want of a little knowledge and attention. If the roots are *frozen stiff*, and are not allowed to thaw, until they thaw buried compactly in soil, they will be uninjured. Trees which stand in open ground, have as a matter of course, the roots frozen every winter, with the soil in which they stand. But they thaw out while still imbedded in the earth, and are unharmed.

Whenever, therefore, trees are received with frozen roots, immediately procure some place where mellow earth may be dug up, either out of doors under snow or leaves, or in a cellar, and bury the roots closely at once—settling the earth about them by dashing *cold* water on the earth which has been freshly placed over the roots. If they have not been previously frozen and thawed out of the ground, little fear need be felt of their growth. But if they have been previously frozen and thawed, the roots when cut with a knife, will have a dull brown color, and not exhibit the lively, white, fresh appearance possessed by uninjured trees, and nothing can save them. If taken into a cellar, avoid thawing the roots in the warm air—bury them immediately.

Trees well *mudded* before packing, and then *compactly imbedded* in plenty of fine damp moss, will be as little liable to injury by freezing, as if packed or buried in moist earth.—*Country Gent.*


MARSDEN DEL.

## EDITHA,

Calved June 18, 1851; bred by and the property of C. S. WAINWRIGHT, of "The Meadows," near Rhinebeck, Dutchess Co., N. Y. Sire imported Megunticook, (251); Grandsire Prince Albert, (102); Dam Moss-Rose, (904), by Duke of York, (37); G. dam imported Nonpareille, (924), by Prince Albert, (102); Gr. g. dam bred by Mr. Halse, of Devonshire, England.

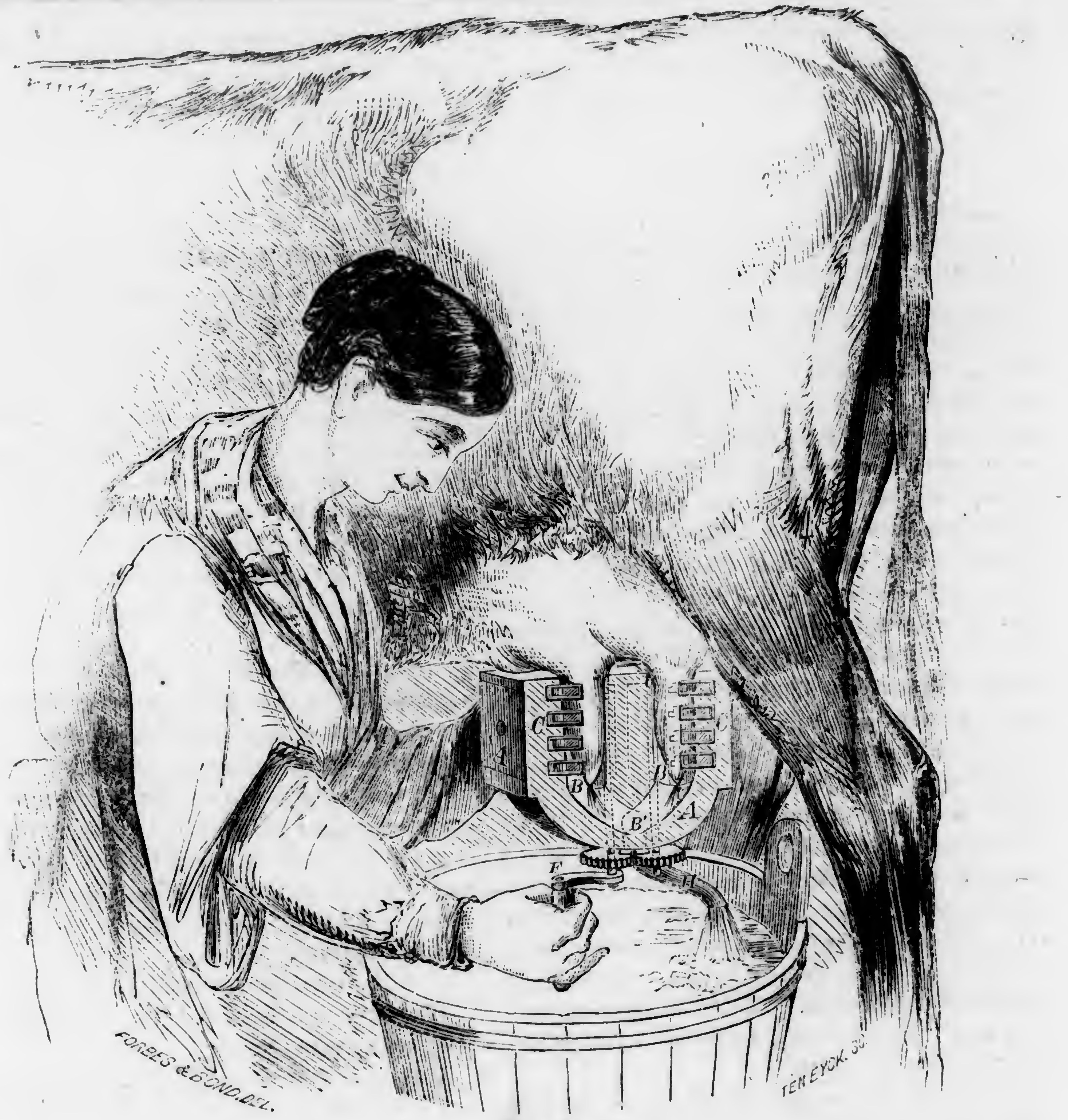
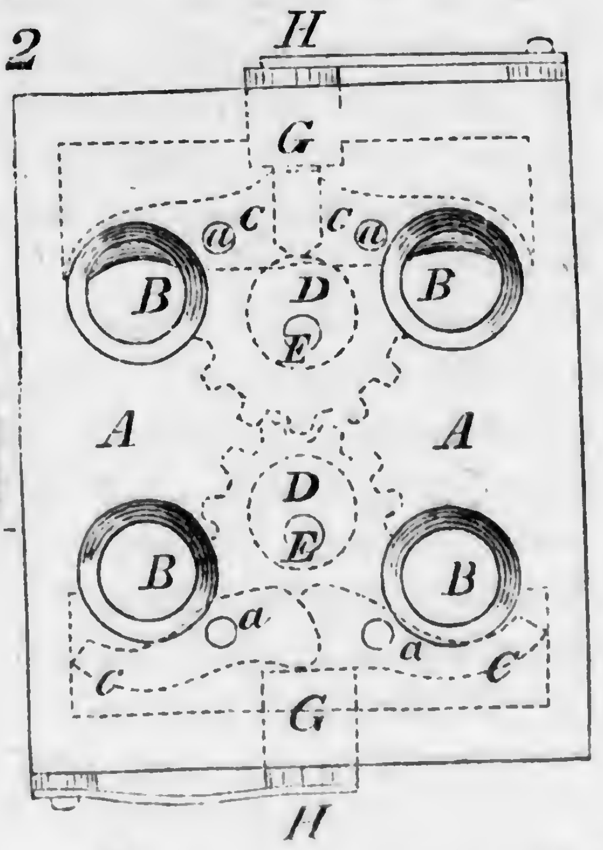


Fig. 1

### COW MILKING APPARATUS.

The contrivance illustrated by our engraving consists of a small box, A, which is held up to the cow by means of a handle on one side. The box contains four tubes, B, which receive the cow's teats, as shown.—The requisite pressure to cause the milk to flow, is obtained by means of a series of fingers, C, which work out and in upon the teats, through slots in tubes, B. The fingers, C, are operated by means of cams, D, on shafts, E. The latter are caused to revolve by the crank, P, and gear wheels as shown. Figure 2 is an enlarged horizontal section, showing the arrangement and operation of the fingers, cams, &c. G are pins which at one end, bear against the cams, and at the other receive the force of springs, H. The latter serve to withdraw the fingers, C, after they have been pressed against the teats of the cows, by cams, D. The bottom of the tubes, B, all meet at a common centre, B', which terminates in a discharge pipe, H, through which the milk escapes into a pail or other receptacle below. *a* are the pivots of the fingers, C.

Fig. 2



The inventor states that this contrivance will milk cows about twice as fast as the work can be done by hand, is more convenient, more cleanly, &c. For further information address the patentee, Wm. H. Whitman, Bailey Hollow, Pa., Patented Aug. 26, 1856.

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## FAIRS AND PREMIUMS.

Now that the fair season has closed, and the farming community will begin to sit the long winter evenings and read, and think for the coming year and coming fairs, we would like to ask their attention for a minute to the subject of Fairs and Premiums. We take it for granted that Fairs will continue, and that premiums are necessary to give them a prosperous continuance. It is not only the worth of the premiums themselves but their value as certificates, setting forth past progress and success, that will make them necessary and desirable for the future. We also take it for granted that premiums should have some reference to the direct bearing which they have on the proper objects of an agricultural Fair. Our premiums differ in value because the interests of agriculture differ, some being more important, some less important. Sometimes a committee deem it necessary to direct attention to a particular department of labor, and therefore offer a large premium, in order to stimulate experiment. Here the reward is more for trial than success. Sometimes a premium may be offered in order even to create a department of labor. Premiums then are of four kinds :—*First*, to stimulate the most important interests of agriculture already known. *Secondly*, to create new departments. *Thirdly*, to encourage experiments. And *Fourthly*, to create a community interest in the Fair itself.

We cannot conceive that premiums can safely be offered for any other objects. If premiums secure an interest in all these ways, every end of an agricultural exhibition is secure. It is very manifest that after all the resources of a State or county have been developed by premiums, then the highest premiums should reward the successful competitor, in the highest and most useful department: the cultivators of staple products, and the makers of staple implements, &c.

Now test by such a standard the premiums at some of our Fairs, and we at once notice sad and hurtful deviations ; for example, " fancy stock" takes a higher premium than useful stock. Trotting is put before drawing. But our farmers do not expect to give over their time to raising fast horses. That would cease to be farming or breeding. It will only tend to ruin our farms and our children. The moment the idea of "a race" gets hold of the community, our Fairs will cease as Fairs. Farmers will not attend, as a class, and another class will—gamblers. As a farming country, therefore, we cannot safely foster any but farming interests and therefore our premium list must be made out with that view.

Fast horses, fast men, and fancy gigs have had too large a share of notice for our farming interest. Female equestrianism—very proper in its place, is out of place at an agricultural Fair. The circus ring should always be under canvass, and those of our Fair country-women, who delight in riding on horseback, will find much safer places for their skill and character, than a trotting ring. We see in one of our exchanges that at a Fair in Massachusetts, three shillings were offered for the best loaf of bread, and $30 for the best specimen of female equestrianism. That is, it is just eighty times as important to teach farmers' daughters to ride well, as it is to bake well —fourscore times more important to have a good ring-woman in your family, than a loaf of good bread.

Take another illustration from our own State. From the programme of a county fair, we extract the following:

THIRD DAY OF THE FAIR.

" This will be the grand gala day of the occasion. *Trotting Match* to come off in the morning, at 9 A. M.

" There will be a *soaped pole* erected on the ground, upon which there will be four premiums :—First premium, pocket knife, valued at $1 ; 2d do., boy's cap, $2 ; 3d do., silver watch, $8. The first premium will be placed on the pole 24 feet above ground ; 2d premium, four feet above the first ; third premium four feet above the second."

LADIES EQUESTRIANISM.

" For best specimen of ladies' equestrianism, a gold locket valued at $8."

At this same fair the highest premium for the best acre of wheat was $4. Therefore a farmer would better by double teach his daughters to ride, than to farm an acre of wheat. Or in another form, better occupy his time in teaching his sons to climb " soaped poles" than to cultivate an acre of wheat.

The soaped pole operation is even better than we have represented. If a man had three boys—smart boys—it would pay better to practice them on " the soapstick" than in the corn field, and potato patch, and wheat field together—for if successful in the first competition, they would realize $11, and if successful in the latter, only $10: one dollar in favor of " soapsticks."

At the same Fair, the best specimen of penmanship was rewarded with a diploma, and the best horsemanship with $8 ; and for the best butter, cheese and bread, the same diploma. That might be a good place to look for circus riders, but a dreadful place for a school master to " board round."

But seriously, farmers ! let us inquire what our real interests are, or whether we cannot have them properly valued and rewarded at our Fairs.—*Ohio Farmer.*

For the Farm Journal.

## MEALINESS OF PEAS AND POTATOES.

MESSRS. EDITORS :—Mealiness in potatoes and peas has always been regarded one of their most desirable qualities. We all know how heavily a hard fleshed potato (by which I mean one that does not possess any mealy qualities) sits upon the stomach. My own impressions are (and I glean them from sad experience) that such potatoes are largely provocative of indigestion, and that many cases of dyspepsia may be traced to this cause alone. We know moreover, that the same variety of potatoes grown in different localities, are diametrically opposite in the qualities named, the one being mealy and delicate, while the other is heavy and inclined to be watery. Now there must be a reason for this, and it is desirable that we should know what that reason is. If it is in the character of the soil, it may readily be explained, or if in the manures used, the question is susceptible of solution.

We are told by good chemical authority, that the reason why some potatoes or peas are more mealy than others, is because they contain a larger proportion of starch. Starch then, it appears is the cause of mealiness. " The pea consists essentially of legumin and starch. The former coagulates and contracts, or rather runs into a mass by boiling—the latter on the contrary, expands, becomes more bulky, tends to burst the husk, and to separate into single grains. If the legumin preponderate, the pea or potato does not melt, while if the starch be abundant, it boils well."

Prof. Johnson says, " it is a difference in the chemical composition of leguminous plants that makes them melt more or less easily—but by what quality in the soil or in the manure is this difference of composition produced ? In regard to lime, the evidence is contradictory. Gypsum may render them harder. Since legumin contains sulphur, and a portion of the effects of gypsum upon leguminous crops is supposed to arise from its yielding sulphur to the growing plants, and thus promoting the production of legumin. Wet and clay lands also favor the production of legumin, more than starch—but in what way, we are not in possession of experimental results of sufficient accuracy, to enable us to say."

The same writer remarks " that much depends upon the variety—that different varieties yield differing quantities of starch, though raised upon the same soil." This would appear to militate somewhat against the position above assumed, that the difference is attributable solely to soil and manures. While I do not pretend to array my humble opinion against such distinguished authority, I submit the matter to the experience and observation of our own farmers, believing that they will bear me out in the assertion that the mealiness of the pea and potato depends more upon soil and manure than upon variety.

The subject is one of interest, and worth investigating. Many a good housewife is compelled to suffer the reproach of not being sufficiently well versed in culinary affairs to " boil a potato properly," when in fact, the difficulty is not in the *modus operandi* of boiling, so much as in the soil in which the potato was grown and the manures applied to it.

Without having pretended to unravel the knotty point in question, or even to throw a ray of light upon it. I am led to hope that others who have given the subject consideration will lend the aid of their experience and observation, so that if it be possible to have mealy peas and potatoes, instead of heavy, hard indigestible ones, the blessing may be secured at the earliest possible moment. Allow me in conclusion to ask whether any of your readers or correspondents have grown potatoes upon wet or moist heavy lands, as well as upon light, dry, loamy soil, and if so, whether they perceived any difference in the mealiness of the two.

Yours,
P. & P.

*January* 1*st*. 1857.

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For the Farm Journal.

## MIND AND MANUAL LABOR.

MESSRS. EDITORS :—It were a work of supererogation in me to attempt to present to your readers reasons why educated labor, all things considered, is generally more successful than that which is uneducated. Such is not my purpose in the few remarks I shall offer. I wish to say a word or two in another direction—a word in behalf of the farmer's " helps," male and female

It requires but a slight knowledge of the agricultural character of our country to ascertain the fact, that farm hands generally speaking, have few opportunities of improving themselves in the knowledge of their business, save what they glean from actual observation and experience. Now practical observation and experience are far more valuable than mere theory, and were it a question which of the two, practice or theory, should be preferred, the preference would undoubtedly be given to the former. On the other hand, were the choice to be made between practice and theory combined, and practice or theory single handed, there would be as little hesitation in giving the preference to the combination. What then is the true policy of the farmer towards his " helps ?" Is it to limit them to such a knowledge of their daily calling, as they are enabled to glean from actual physical labor, and the observations they may make from time to time in regard to what is passing around them? Or is it to add inducements to observation, and lessen the burthen of the day's work, by furnishing them with food for the mind as well as the body?

Seven years' experience as a farm laborer have taught me to know the proper value of mental food after the hard work of the day is over, and I am now fully satisfied, that although my opportunities for procuring reading matter were far better than the majority of persons in my situation, if they had been more ample, not only would I have been more benefited, but my employers also. It is a mistaken and cruel idea, that laboring men do not deserve and appreciate the means of procuring information in relation to their business. There is in man an innate thirst for knowledge, and this thirst is frequently as strong and stronger in the "farmer's help" than in the farmer himself. But the means of slaking it are not always within his reach. Farm-hand's wages are too small to enable them to invest any of their earnings in the shape of agricultural books and periodicals without serious inconvenience. Not so with the farmer himself. In nine cases out of ten he has abundant means and he is the person who should supply reading matter not only to himself and family, but to his "helps." Could the farmers of this State and others properly understand this matter, I feel very well assured that agricultural books would abound where now there is a dreary dearth. The laboring man when his day's work was over, instead of spending the pleasant hours of the winter evenings in idle or unprofitable conversation, would turn his attention to reading. Having books and papers presented to his notice and courting his acquaintance continually, he would insensibly abandon the idle method of spending his leisure hours and give his attention to the perusal of books which treated familiarly of the subjects which daily employed him.

Is it not reasonable to suppose that with a mind partially stored, at least, with information relating to his daily avocations, he would pursue them more intelligently, and consequently more pleasantly to himself and more profitably to his employer? I think so, nay, I know it. Besides this, how much more gratifying it would be to the farmer himself, to see his whole household, engaged in the pursuit of useful knowledge, than, as is too often the case, seeking means whereby to *pass the interval* between the close of day and bed time. What a change would be wrought in a family to which the means of information have hitherto been strangers, by the introduction of a few good practical volumes and an agricultural periodical or two. I have seen it, and so salutary has it been, that the farmers who have adopted it, would not for any consideration abandon it. Their *men* work more willingly, and more advantageously, their *women* feel that they have been placed in a comparatively new sphere and their whole households have felt the invigorating influence which increasing knowledge always dispenses.

Allow me then in conclusion to say a word to your farmer readers. Friends, if you have occasion to employ help in the management of your farms, and if you would have your work done economically and well, supply them with an abundance of reading matter. Do not give them trashy novels, but give them that kind of mental food which while it will amuse, will at the same time instruct. Bear in mind the fact that your laboring men and women are thinking, reasoning creatures—that if knowledge is valuable to you, it is valuable to them, and that all the money you invest in books and papers for their use, will be like bread cast upon the waters which after many days shall be returned to you.

Plow Boy.

*January*, 1857.

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For the Farm Journal.

## HOW SALT ACTS UPON PLANTS.

Messrs. Editors:—Will you oblige a reader and subscriber by giving a place to the following remarks on the use of common salt. It has long been a mooted question with American agriculturists, whether salt is beneficial or injurious to crops in general, some contending warmly for its use, and others, as strenuously opposing it. Perhaps the insertion of the following may lead to a further discussion and enable those of us who are still in the dark, to understand its merits more fully.

With respect to the theory of the action of common salt when applied alone to the land, we would observe that it may exercise a beneficial influence upon most plants for the following reasons:

1. Common salt exists in greater or less proportion as such in all uncultivated plants. Several naturally growing near the seacoast require considerable quantities for coming to perfection. One of the functions of salt, therefore, will be to supply plants with this necessary alimentary constituent.

2. According to Sprengel and Meyer, the leaves of plants give off chlorine in the dark. The chlorine must arise from the decomposition of a chloride, in all probability, from chloride of sodium or common salt. The soda which is thus produced, may act upon the constituents in the sap in a variety of ways, and produce effects highly conducive to the luxuriant growth of plants.

3. It is stated by Berthollet that, in a calcareous soil, common salt is gradually decomposed by the

carbonate of lime which the soil contains. By a double decomposition carbonate of soda, and chloride of calcium are formed; and as carbonate of soda has the property of dissolving silica, we can in some measure explain the effects of salt by the circumstance that it supplies indirectly silica, which is so essential a constituent of many plants.

Carbonate of Soda not only dissolves silica, and may supply it to the plant in a readily available form but it is also a solvent for phosphoric acid, organic acids, &c., and may therefore exercise a beneficial effect by carrying these constituents into the vegetable organism, in combinations highly favorable to the healthy condition of plants.

Professor Way has lately shown that silicate of ammonia is much more soluble in a solution of common salt than in pure water. His researches render it very probable, that silicate of ammonia fulfils the important function of carying silica into our cereals, and depositing it on the surface of their leaves and stalks. Now if silicate of ammonia is really the chief source from which the silica in our cereals is derived the use of salt in growing wheat can be intelligibly explained by the greater solubility of silicate of ammonia in a salt solution. "If it be in any degree correct," Prof. Way observes, "then the action of common salt in strengthening and brightening the straw of wheat and barley, which is the best ascertained of its effects as manure is immediately traceable to the greater solubility of the silicate of ammonia in a saline solution."

The opinion that salt adds strength to the straw of wheat prevails very generally though this point has never been satisfactorily determined. The views of Prof. Way, however, appear to sustain this opinion. The turnip contains a large proportion of salt and its use has been found beneficial in the cultivation of this crop. Mixed with manure some time before application has been considered the most advantageous method of application.

Hoping that these very brief hints will serve to awaken future inquiry,

I remain yours truly,
E. Remson.

*January* 1, 1857.

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For the Farm Journal.

## CHINESE SUGAR CANE.

Editors Farm Journal:—As you have done me the honor to insert in December number of the Journal a short extract from an article I had written for our local paper (the Columbia Spy,) giving my views in relation to this new plant, I will just say in addition that the corroborating evidence of its suitableness "to all soils and all climates" from Maine to Florida, which we see published in papers from every section of our Union, fully confirms all that has been said in its favor. Thus for once, I think this will be no "multicaulis humbug." I would unhesitatingly recommend a trial of it by every farmer, who desires to "raise his own sweetening," to set apart a quarter or half acre, in his cornfield, and if he can procure the seed at a reasonable rate, to commence the cultivation of it without fear of a failure. Though I have not cultivated it on a scale sufficiently large to enable me to give reliable information to your readers from my own experiments in regard to the quantity of syrup, seed or fodder, per acre, yet from the concurrent testimony of so many who have experimented with it in various and distant sections of the country there is in my mind proof positive, that an acre well set and well cultivated will produce from three to six hundred gallons of syrup or molasses, and as to *quality*, my own experiment fully satisfies me that it is superior and more pleasant to the taste then the *best* of New Orleans or sugar house molasses. That it will answer for all the uses to which molasses is usually applied, and an excellent substitute for molasses and in many cases even sugar. It will soon be manufactured into dry sugar. Extracting the juice from the cane is the greatest difficulty to be encountered by farmers. After the juice is extracted it should at once be placed in the boilers, and gradually brought to the boiling point, the scum removed, and the liquor kept boiling until nearly three fourths is evaporated. When it begins to thicken, take it out and stow away in clean barrels in the cellar, where the "gude wife" will at all times find it a most valuable addition to the stock of culinary articles.

Respectfully,
J. B. Garber.

*Columbia, Pa., Dec. 22d*, 1856.

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Sheep, when fattening, should not be fed oftener than three times a day—namely, when day has fairly dawned, at noon, and an hour before sunset.

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Towels wrung out of *hot* water and applied to the forehead, in cases of neuralgic headache, will, it is said, afford much relief.

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California is becoming celebrated for her dairy products. Butter and cheese are made there of the best quality.

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The Patent Office has received some elegant specimens of "Malaga Grapes," from California. It is believed that these grapes can be supplied at a cheaper rate from California, than from Malaga.

## PACKING TREES AND PLANTS.

Our friend Thomas Meehan, who has contributed an interesting article on the Chinese Potato in our present number, writes thus to the Horticulturist in relation to packing trees and plants:

Heat, air, light and moisture are necessary for the growth of plants; but in packing we aim only to preserve their existence. Light is only necessary while the plant is growing. Whenever growth commences, it must have its due proportion of light, or it soon decays. One of the chief points in good packing, therefore, is to prevent growth. This being guarded against securely, plants can be kept boxed or baled up in darkness for a long time. The chief agent in exciting growth is heat. A packer's chief care should be to get full control of this power.

Every one knows that when vegetable substances are collected in bodies, deprived of air and light, and become moist they commence to decay; and, in the process, evolve heat. To avoid this, those substances the least liable to decay by being moistened, are employed as packing material.

Of all substances yet known, moss is the best in this particular, as under ordinary circumstances, its decay is very slow. How wet the packing material should be, or how much of it should be employed, will depend on the time the plants may have to remain covered, and what description of plants they are. Plants with soft watery foliage need the packing material rather dry, while deciduous trees, or plants with hard leathery foliage, may have it quite wet. If the plants have to be sent some distance, it is in any case safest to use rather dry packing material, and to depend on maintaining sufficient moisture for the plant's existence, by packing tight so as to prevent evaporation. It need scarcely be added, after what has been said, that the cooler plants can be kept until they are opened, the better for them, unless the temperature is below freezing point, frosty weather being equally with hot, favorable to evaporation.

It may be useful to say a few words on the details of packing as well as the principles. Plants are transported in either boxes or bales. The former is by far the most convenient for small trees under three feet, as well as for all kinds of pot plants; trees of larger growth are best baled. Boxes for this purpose should be strong, as they are liable to rough usage at times on wharves. In packing pot plants, the first process is staking the plant, tying in all the branches, as the closer they are tied the less they will get injured by each branch and leaf rubbing against others. Then the soil must be fixed so as to prevent its being thrown out of the pots. This is effected by tying moss over it around the stem of the plant on the upper surface of the pot.

There are two ways of tying on the moss. In one case the packer takes the end of the string and the pot in his left hand, crosses the string over the surface and under the bottom of the pot six or eight times, and finishes by bringing it around under the rim. In the other the pot stands on the bench, and the string is brought around under the rim, each time it is made to cross under the moss, and does not go under the pot at all. The first is the easiest way; the last makes the best job, as it can never loosen, which the first often does. After the plants are mossed, and a box selected capable of holding the required number, a few inches of moss is placed in the bottom, and the largest and heaviest pots selected and placed on their sides on two faces of the box, so as to "look at each other." Strips of any narrow pieces of waste wood are then cut so as to fit exactly inside the box; these are placed along the face of the pots, so as to come on a line with the upper edge, and then firmly secured by a nail driven into the end of the strip through and from the outside of the box. When one row is thus finished, some few inches more moss is placed on the lower course of pots, another layer of pots, and then another strip; this is again repeated till the box is full. If the strips are pressed tight to the faces of the pots, they will not press heavily on those beneath them; and if the whole is properly done, plants may be sent a six weeks' voyage in safety, without the breakage of a pot. Some plants, as oranges, camelias, and other similar plants, are taken out of their pots, and moss or canvass wrapped around the balls; these are repotted on arriving at their destination, and in proper hands do very well, while it saves considerable expense in freight and express charges. Young trees are packed in moss, in any way they will lie conveniently; when the box is tight, a very thin layer of moss is employed between each layer of trees; in open crates, a greater quantity is used around the roots, and less among the branches.

Baling is a more difficult operation to perform properly. From fifty to one hundred of ordinary sized nursery trees make a respectable bale; two or three of the tallest trees are first collected together, then small quantities of damp moss placed in the crevices of the roots, a few more roots laid on, and more moss, until the whole number is laid together; a band of rye straw is then passed around the bundle near the collars of the roots, and drawn together as tightly as possible; two or three more bands are passed around at other parts.

A bast or cocoa-nut mat—the last to be preferred—is then laid on the floor of the packing shed, and

a few bundles of rye straw spread out the length of the stems of the trees, so that six or eight inches of the end of the straw will lap over the mat; then on the mat some six inches of wet straw is placed, and on this the roots laid in about the middle of the mat: the bundle is placed, the wet straw well packed around the roots, the mat drawn up very tightly around, and sewed together; and then lastly the straw brought equally around the bundle, and corded regularly around, at about six inches interval till the end is reached, when the cord should be brought down on the opposite side lengthwise, secured to each circle of cord as it passes, and finished by being secured to the mat at the base.

In cording bales, deciduous trees cannot be too tightly drawn together; evergreens should be drawn together more loosely, as they are apt to heat, especially if they are somewhat damp.

I trust this brief explanation of the principles of packing, and slight sketch of the mode of doing it, will be sufficient to set novices on the track of becoming proficients in the art. I am sensible I have done little for their information, for it is truly one of those arts in which "practice makes perfect."

## THE CHINA SHEEP.

*Charlton, Saratoga Co., N. Y.*, Nov. 1856.

John Holmes, Esq., of Balston, has four sheep of this variety—three ewes and one buck. These curious and remarkable sheep were bought by Mr. McIntyre, of your city, from the ship on board of which they were taken in China, for the purpose of furnishing a supply of fresh meat. Being left, they were purchased in New York last spring, having had lambs and been shorn on ship-board. Since their arrival in the country they have done finely, have been again shorn, and two of them now have five lambs about two months old. These lambs are hardy now, eat hay readily, and will winter in good condition. The fleece is long enough on the sheep to again be taken off, and is about the same texture as that of the Bakewell breed, but much more glossy and thicker. A common man could not lift one of these sheep, and their mutton is said by those who have tasted it, to be far superior to any American sheep. I think a cross of this kind and the merino would be just the breed for profit. The wool would be about second grade, and the lambs, for size and quality, would command the first price.

The wool of these sheep is very curly on the neck, with a clean head, large lopped ears, and a short, pointed tail, very broad at the base. The bleat is somewhat different from the common kind, and, unlike them, they are naturally tame and orderly.

F. D. C.

For the Farm Journal.

## THE CULTIVATION OF FRUIT,

Of all kinds, is receiving at this time an increasing degree of attention in this country, and the spirit of enterprise is well rewarded. Farmers are becoming aroused to the importance of this subject, and manifest their interest by greater care in the selection and culture of the choicest varieties.

There is certainly, if properly conducted, no crop so profitable to the farmer as the cultivation of choice fruit for market, family use, and feeding; while poor fruit, like poor crops of any kind, seldom pay cost. It is now the opinion of good practical farmers, that for feeding swine, horses, and cattle—particularly to swine—there is no crop that pays better according to its cost, being fully equal to potatoes by measure. It has been found, by analysis, that the apple contains as much nutritious matter, weight for weight, as the potato; and certain varieties of sweet apples, I think, contain as much per bushel as the potato, if not more. Whilst for market, it is a fair estimate in this part of the State, to say, that ten barrels of winter *apples* will generally sell for as much money as a ton of our best *hay*. At a distance of about thirty feet apart, fifty trees would stand upon an acre, which will at least produce an average annual crop of seventy-five barrels of marketable fruit—allowing a barrel and a half to each tree, which is certainly a very low estimate. Seventy-five barrels of apples are worth at least as many dollars, or from seven to ten tons of hay. At the lowest possible estimate, a fruit orchard will give *four times* as much profit as the same quantity of land cultivated for any other crop, counting the cost of cultivation.

It seems strange, when we consider the profits of fruit culture, that farmers do not devote more attention to its cultivation; but fruit trees require care and attention to do well, and in the above estimate it is presumed that the orchard is cultivated with the same care and attention as for any other crop. Many seem to think, (judging from their actions,) that fruit requires little more care than forest trees; and with such, fruit culture is not very profitable.

Our enterprising townsmen, the Hon. Judge Taylor and Theodore Cramer, Esq., are taking the lead in the cultivation of choice nurseries, in connection with an experimental orchard—both much needed in this vicinity, and we hope they will be suitably rewarded by the farming and fruit-growing community.

JESSE GORSUCH.

*Huntingdon, Pa.*, December, 1856.

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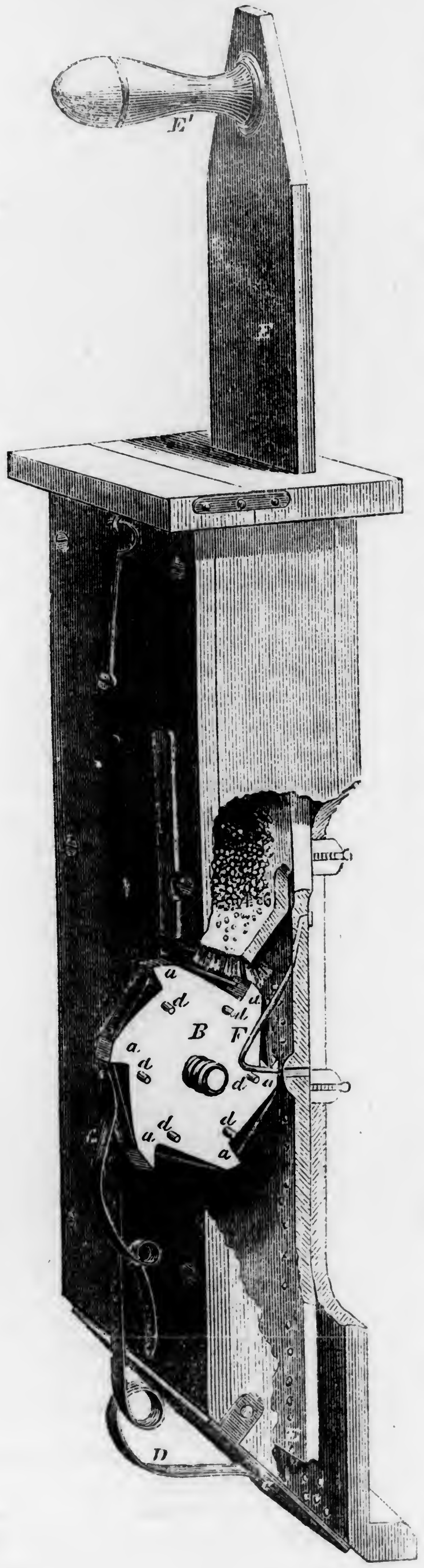
STOVE lustre mixed with turpentine is not only more glossy and durable, but prevents rust.



## NEW HAND-SEED PLANTER.

In most of the hand corn-planters the grain is taken from the seed box by means of a float slide, which has slots or pockets in its surface. In the machine here illustrated, A is the seed box, and B a many-sided wheel which is employed instead of a slide.

The periphery of wheel B is notched at intervals, so as to form pockets, *a*, which receive the seed. By the revolution of wheel B, the seed contained in said pockets is discharged, and falls to the lower part of the machine, below slide E, upon the plate C; this plate is hinged at *c*, but is kept closed, except at the moment of planting, by the spring D.

In planting, the operator places the lower extremity of the instrument upon the ground, and pushes down the slide E, by means of its handle, E′. In its downward movement slide E opens plate C, and forces the seed which had previously fallen into the space below the extremity of the slide, into the ground. By lifting on the handle E′, the slide E is withdrawn, and plate C again closes.

Wheel B is rotated by the descent of slide E, through the medium of a spring dog, F, the lower end of which strikes the pins, *d*, and drives wheel B around, something after the manner of a ratchet wheel. G is a spring which serves as a ratchet and prevents wheel B from turning backwards. Wheel B projects through one side of the case, the spring being made tight by the plate, whose lower end rest on the periphery of wheel B, and rises and falls by its own gravity, in accordance with the formation of B. There are yielding face-plates on the surface of the pockets, *a*. These face-plates spring slightly, and throw off the grain, so that none can adhere. They serve also as regulators of the quantity of grain received in the pockets, *a*; for, by means of a set screw, they are readily adjusted so as to fill more or less space in the pocket.

This planter is extremely simple in all its parts; durable, and not liable to get out of order. It is adapted to the planting of corn, cotton seed, pumpkin seed either mixed or not with corn, and to all other kinds of seed that require to be deposited in hills. The construction of the machine is such that it cannot clog up, no matter what kind of seed is to be planted. It works equally well whether the ground be dry or moist. The inventor is Heman B. Hammon, of Bristolville, Ohio.

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Oats ground with Buckwheat, in proportion of one to three, make a meal greatly superior to Buckwheat alone, for griddle cakes, slap-jacks, &c. (We can vouch for this.)

## LETTER ADDRESSED TO MR. LAWES OF ROTHAMSTED, BY M. PAYEN,* UPON THE QUESTION OF MANURES.

Translated from *Le Bulletin des Seances de la Societe imperiale et contrale d'agriculture, Mai* 1856, by Dr. A. L. Elwyn, and read at the February meeting of the Philadelphia Society for Promoting Agriculture.

Sir:—I have read with much interest, the answer which you, in connection with Dr. Gilbert have made to the theories and principles of the agricultural chemistry of M. Liebig, as also to the objections of that illustrious savant to your own experiments. This discussion, based upon citations and positive facts, appears to me to settle clearly, the question of manures.

The results of your beautiful and persevering experimental culture, elucidated by numerous analyses, demonstrate the important function of the azotized substances, and of the mineral matter of the soil; a function which is never exclusive, but which becomes predominant sometimes for one, sometimes for others, according to the plants which successively occupy the earth, in a rotation of crops.

You have yourself determined relative to your soil, the predominant usefulness of the phosphates for turnips, of the salts of potash for leguminous plants, and of azotized substances for the production of wheat. These results, the elements of which I have seen with so much interest, in your fields, and your fine laboratory at Rothamsted, agree with the facts well observed in France by our agriculturists. They also agree with my researches upon the structure, the chemical composition, and the development of vegetables; results and researches which we can understand better when we observe the immense number of radicles which develop and multiply in the soil, assimilating, the further they penetrate, not only dissolved mineral matters, of which we find the combinations often transformed in plants, but also considerable quantities of azotized substances which they add to the ascending sap, and deposit upon the walls of the sap-vessels. They thus concurrently with ammoniacal gas, and the azote which the leaves have the power directly or indirectly to draw from the atmosphere, nourish the tissues in process of formation, and the young shoots always rich in azotized substances.

In the presence of these well-authenticated facts of experimental culture, of organography and vegetable physiology, we cannot overlook the absolute necessity of the pre-existence and the continuance of a large quantity of azotized substances in the soil, in order that it may possess and retain its fertility, always admitting the indispensable utility of the mineral materials appropriate to the wants and different aptitudes of vegetables. We could not, therefore, regard otherwise than as you have done, the following too exclusive assertions of M. Liebig, which you quote:

"If these elements, (mineral matter) are to be found in sufficient quantities and proper proportions, the soil offers the conditions which render plants capable of absorbing carbonic acid and the ammoniacal gas of the air, which is to them an inexhaustible reservoir."

We might have admitted *a priori*, a similar theory, at the period when physiologists, not valuing the azotized substances, drawn by vegetables from the soil, saw in the ascending sap only water, salts, and carbonic acid, and then as the liquid ascended higher in the tissues, gum and sugar.

As you observe, it is evident from simple facts, that the efficacy of guano in the production of wheat, is measured by the proportion of azote, and not of phosphates, because the azotized matter is found in large quantities, and the phosphates in relatively small proportions; this substance therefore brings double the price of other commercial manures, rich in phosphates but deficient in azote. Finally, long practice has proved that guano of the highest price, containing the most azote, produces more grain than guano of a lower price, relatively richer in phosphates.

M. Liebig has said in his fourth edition of Organic Chemistry, and its application to agriculture, that "Ashes can be substituted for animal manures, and if a proper choice is made, they will give to the fields all the constituent principles which have been carried off by the harvest of cultivated plants." And in the same work—"It is very important in agriculture, to know, with certainty, that a supply of ammonia is superfluous, if the soil contains a sufficient provision of mineral nutriment."

Upon these views were founded the manufacture of purely mineral manures, directed by Mr. Muspratt, whose products have had in general no great success. The preparation, however, of manures, from blood and pulverized bones, succeeded in France, as in England, and has lately won silver medals for MM. Derrien of Nantes, and Jonas Webb, (England) who had sent their products to the Universal Exhibition of 1856.

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* Few men in Europe enjoy a higher reputation in the department of applied chemistry, than the illustrious author of this letter. The friend and colleague of Boussingault, he has been commissioned by his government with important examinations in vegetable and agricultural chemistry both at home and abroad. His opinion on the much-mooted question of the value of the fixed mineral constituents of manures, is, therefore, worthy of the fullest confidence. This question, in its various bearings, may be regarded as the most interesting and important one which has engaged the attention of Agricultural Chemists since the time of Davy. Until the precise relation of the plants, that constitute the bulk of our crops, to the soil and to the atmosphere be established, all processes for the amelioration of the soil must be empirical and constantly changing, and the gains of the farmer uncertain, and frequently unremunerative.—[Ed.]

No agriculturist believes, now-a-days, that manure can be replaced by ashes which are the result of its combustion, nor by any other mineral substance deprived of nitrogen. The results of small experimental cultivation undertaken and followed up for several years with so much care, in soils containing the ashes of vegetables, but exempt from nitrogenous substances show, that plants, cultivated in such conditions, even though in the open air, take very little nitrogen from the atmosphere, and furnish a much smaller crop, compared with plants developed under the influence of azotized manures.

On the other hand, the traditional practice of our market-gardeners, demonstrates that they can increase five or even ten times the product of the cultivation of the soil, if they will but furnish to plants those manures which abound in nitrogenous substances easily decomposable; remembering always, to renew these manures whenever their ammoniacal exhalations become too small in amount. Skilful gardeners are very far from wishing to confine themselves to the gas which the atmosphere furnishes to them gratuitously; they know, by experience, that no combination of mineral materials, or of ashes, would furnish them with like results. Furthermore, the rare discrepancies on these various points will soon be merely apparent, and doubtless, chiefly on account of your elegant processes and conscientious labors, will speedily cease entirely.

Already one sees with the utmost satisfaction, a spirit as eminent as M. Liebig, giving his evidence to facts, which you have already brought to light. Such is seen to be the case from many quotations from his own maxims; and especially from the following passages which you have quoted:

"While the ground is lying fallow, the carbonic acid and the ammonia are introduced into the soil by the rain and the air. The ammonia remains in the soil, whenever it finds there, in sufficient amount, substances capable by combining with it, of depriving it of its volatility. But the means of preparing the soil, in such a manner as shall best enable it to extract from the air, and from other natural sources, the maximum of azote to condense into its own products, is, in reality, a problem worthy of scientific agriculture."—*Principes de chemie agricole au point de vue special des dernieres recherches faites en Angleterre*, 1855.

Evidently this is but one step from the recognition of the full utility of nitrogenized manures, in causing the soil to produce the maximum crop.

Let us hope that M. Liebig will before long admit, with all the best farmers, with most savants who employ themselves in agricultural chemistry, and with the chemists commissioned to analyze the commercial manures, in the storage-yards of the French government, that the determination of the nitrogen and the phosphoric acid in manures, affords the principal measure of their commercial value, since it represents those particular kinds of food for vegetables, which cultivators find it most difficult to procure economically; others, such as carbonates of lime and magnesia, plaster, and the alkaline salts, can be obtained at small expense, as also, those organic remains, poor in azote, which furnish, by their spontaneous decomposition, carbonic acid, a substance which is also often found in excess among the stubble and other remains of former culture.

Finally, one should recognise this fact, (and without doubt, you will be of the same opinion) that if M. Liebig has given neither the means to furnish economically artificial manures to the farmer, nor the true theory of the nutrition of plants, he has at least, rendered some important services to agriculture.

Always exaggerating the power of mineral substances to fertilize the soil, he has given immense publicity in Germany, England, America and France, to exact ideas as to the utility of this important part of vegetable nutrition.

In pointing out one of the causes of the exhaustion of the fertility of the soil, he has excited the lively attention of cultivators, especially in England, where he indicated a danger, which appeared to him very formidable.

He has finally succeeded, by prompt and sure ways in demonstrating to the farmers of all countries, the advantages (hitherto but too little appreciated, in spite of the efforts of other savants,) of chemical analysis applied to soils, to manures, and to crops.

## OUR SUBSCRIPTION LIST.

We are pleased to state that our Subscriptions for the Seventh Volume are coming in finely, but we have room for a great many more. To those who have lent a helping hand, we tender our hearty thanks; and while it may not appear reasonable in us to expect more at their hands, still, we indulge the hope that their efforts will be continued, and that we shall have large additions from districts which have already done well. Keep the ball rolling.

# Horticultural.

For the Farm Journal.

## THE PROPER SOIL FOR FRUIT TREES.

MESSRS. EDITORS:—How few there are, who, when making selections of trees for ornamental purposes, think of inquiring whether their soil is adapted to the kind of trees selected. The taste of the purchaser only is consulted—the growth and development of the tree are left to chance. One person selects trees of a particular variety and plants them in soil which happens to be entirely congenial to their wants. They thrive beautifully. Attracted by their handsome appearance, another orders the same kind of trees from the same nursery. They are planted by the same person, in precisely the same manner and at the same period of the year. But mark the difference! Instead of a full vigorous growth, they barely give evidences of life, perhaps they die. The owner is disappointed. Some one is to blame. Who is it? First the nurseryman, next the person who planted them. In five cases out of six neither of the parties blamed are the right ones though both are at times at fault. The blame properly attaches to the purchaser himself, who in selecting his trees, forgot to inquire whether his soil was adapted to their growth or not. Mr. Meehan in his excellent little work "American Hand-book of Ornamental Trees," speaks so sensibly upon this subject, that I have been led to think an insertion of them in the Journal would serve in a degree to correct this too prevalent error.

1. Each kind of tree has a soil peculiarly its own. In that soil it will do better than any other tree. The subject, then, is one of some moment.

2. Science may some day explain this with exactness; practice and experiment have taught us chiefly what we know so far. They have taught us that an oak, beautiful on our neighbor's clayey soil, would languish in our light sandy loam; and a pine on ours —"the envied of all beholders"—would be equally uneasy on his stiff ground. We have been enabled to learn what trees are well adapted to certain soils —in what soil any given tree will do well.

3. This is of more importance to the man of small means, than to the man of fortune. The latter can have any tree he chooses, because he can make the soil to suit. The other cannot afford the expense—he must select the tree that suits his soil.

4. To illustrate the evil of inattention to soil, take the silver maples employed as shade trees in Philadelphia; where they are more generally used than any other tree. You may find it in every situation, till you believe that shade tree and silver maple are considered synonymous. For ground wet or dry, for soils light or heavy, it is all the same. Thus, it often finds itself in circumstances every way unsuited to it. The leaves become small; the growth short and meagre; the trunk hide-bound, and the branches covered with mosses and lichens. They live and grow—perhaps for years—but never to satisfaction. Scores of such specimens may be seen at any time in our streets. The blame is too often thrown on the wrong source. The nurseryman is charged with selling bad trees, and the remedy sought for in trees purchased from another dealer, "which also in their turn, must follow them."

5. The number of species and varieties is now so great, that a fine collection of trees may be had in even a piece of ground with one uniform soil. Variety is generally pleasing; and the smallest lot might as well have its half-dozen trees of different kinds, as in one monotonous sameness. If one tree only be wanted, I prefer it to be different from one's neighbor's adjoining. In addition to the charm of variety, which is added to the pleasure of the shade emulation has here an innocent outlet for its course. which will not fail to bring its gratifying reward.

6. One objection to variety, so far as shade trees are concerned, is its cost. A nurseryman can afford to sell a quantity of one thing for less, than for small lots of different ones. But on reflection, few would be willing to forego the pleasure of that variety which is one of the charms of natural beauty—one of the best means by which we contrast that which is superior with that which is beneath—and rest satisfied with the only change brought by the seasons, and the only pleasure that brought by its shade, when a trifling cost in the original outlay will "add all these things unto them." The saving of a dollar in a gratification which is expected to last for life, is a consideration which will have little weight when duly reflected on. A little extra expense in a selection of trees, a little extra thought on appropriating each to its most proper soil, and a little extra care bestowed on their removal and replanting, will be amply repaid in the future beauty, variety health, and luxuriousness of shade trees.

## HINTS ON GRAPE CULTURE.

BY R. G. PARDEE.

The preparation of the vine border is an important process in grape culture in private gardens. It should be made from four to six feet wide, and two to three feet deep; and be composed of a liberal mixture of limestone, or old plaster or mortar, bones, leather-parings, hair, ashes, and strong, well-rotted manure, well mixed with the soil.

A calcareous soil or gravelly loam is the best for the grape, and should be well drained and warm. It is somewhat difficult in wet clay lands to raise good grapes, unless the vine border is carefully prepared. Soap-suds and wash from the house is favorable for the grape, and we have known some plants succeed well that were placed immediately under the spout of the sink. For vineyard culture, the nearer the process approximates to the one described above by trenching and enriching, the better.

Every plant should be thoroughly pruned down to two or three leading shoots; and after these cover the trellis or stakes as extensively as you wish, then the rule in pruning is, every year from December to first of February, fearlessly to cut back all of the last year's growth, so far as to leave only two eyes. It is also desirable, after the grapes are beginning to fill in June, to pinch back the terminal bud of every branch, and thus check its growth, and throw back its sap, to ripen the fruit and mature the wood. By pinching back, we mean, to pinch off with the thumb-nail and forefinger the end of every bearing branch, and we then cut out all the superfluous little shoots and suckers.

The vine is composed the greater part of potash, lime, and carbonic acid, and therefore a frequent application of ashes, lime, and soap-suds is beneficial. It has been asserted that tartaric acid is a valuable specific for the fruit, but of this we have no personal knowledge.

The grape should always be grown in the warmest and most sheltered situation, so that the fruit may ripen well before frost. The south side of a house, or southern slope of a side-hill, should be chosen.

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For the Farm Journal.

## THE NEW CHINESE POTATO.

The introduction of new races of plants or vegetables, and the improvement of old ones, is a very important part of our interest as cultivators; and too much praise can scarcely be bestowed on those who make this branch their study. In the pursuit of this object there will always be two parties—those who approve too hastily, and those who condemn on partial evidence. Both are useful to the cause—the one by their enthusiasm directing attention to unnoticed advantages, the other by their hostility repressing that dangerous ardor, which otherwise might again involve us in multicaulis schemes or entanglements.

In offering my experience in the matter of the Chinese yam or potato, I profess to belong to neither of these parties, but to give the facts simply as I observed them.

Last spring I took six tubers each no larger than a small pea, and put them each in a three inch pot with common soil. They were set in a frame with verbenas, and other common things, and treated quite carelessly. Early in June I noticed them as being about two inches high, and turned them out of the pots into a spent hotbed, that had been used early in the spring for raising early cabbage plants. They were left here entirely to themselves—sometimes being so dry that the very weeds that were suffered to grow up amongst them withered up and dwindled away. I scarcely ever thought it worth while to look at them; having suffered myself to look upon its introduction as a humbug soon to die out. The vines, as may be guessed, grew but very little—not, I believe, exceeding eighteen inches on the arrival of frost—when they were dug up.

I was certainly surprised to find, instead of the little peas, which had rotted away, roots six inches long, and as thick as my thumb, which, I must tell the reader, is by no means beneath the average size of thumbs generally.

I could not help feeling that a root that in five months had increased one hundred fold, had at least some claim to attention, and I determined to sacrifice one root, to satisfy myself of its value as an esculent. I may here observe that I am fortunate in being able to enjoy *well cooked* potatoes; but whether this fact has any thing to do with making my experience differ from those who find the quality of the Chinese potato "below par," I cannot say; but certain it is, that in my own opinion, and that of my whole family, I never ate a potato, either "sweet" or "Hibernian" with greater enjoyment.

By this careless trial, I have arrived at two facts—first, that it is an agreeable esculent—secondly, that it is capable of reproducing itself a hundred fold. This is no more than a carrot, turnip or any other root is capable of doing; but it serves to place it on the same footing as these useful vegetables.

The only question left to my mind is, whether it will pay to grow them. That will depend greatly on their market value. They grow so peculiarly that it will probably cost more to grow and dig an acre of them, than it would any other kind of root, as they penetrate the soil deeply, and grow thicker as they get down. But little, comparatively nothing, is yet known of the best modes of cultivating the plant; and it is quite probable that as this is discovered, it will be found far less laborious to raise than it now does. However, be that as it may, your correspondent does not feel that he can say any thing positive of its value further. It is his intention still to experiment, and he would recommend his readers to do so likewise, as they get opportunity.

THOS. MEEHAN.

*Germantown, Dec.* 20, 1856.

## A CHAPTER ON STRAWBERRY CULTURE.

We condense the following from Mr. Pardee's excellent little work, on the culture of the Strawberry, published by Saxton & Co., and which should be in the hands of every lover of this delicious fruit.

*Situation.*—A warm, exposed and yet rather moist location is best for a strawberry plantation. If very early fruit be an object, select a side hill gently sloping toward the south, with a liberal admixture of small stones or coarse gravel in the soil. Protect the bed on the north and west by a tight fence or a live hedge. For late fruit, select a piece of land facing the north and exposed. Low land is usually preferable to high hilly land, though either will answer. If the plot can be located near a spring of water where it can be irrigated it is very desirable. As little shade as possible should be given the bed.

*Soil.*—New land recently disrobed of its forests, if of a deep gravelly loam is best adapted to the strawberry, and next a sandy loam; but almost any soil can, by a liberal admixture of gravel or sand be made to produce the finest fruit. The lower and moister the soil, consistent with perfect drainage the better. Avoid wet spongy lands not susceptible of drainage, and high barren hills with thin flinty soil.

*Preparation of the Soil.*—Clear the ground of roots weeds and seeds of all kinds, in preparation for thorough drainage. Let draining be the first thing attended to. Earthen tile drains from two to four feet apart are best. After draining, break up the soil with a subsoil plow or by trenching, at least 20 inches deep. The strawberry loathes stagnant water, and cannot endure drought, therefore, we repeat it, drain thoroughly first.

Apply to every acre the following: 20 or 30 bushels or unleached or leached ashes, 10 to 12 bushels of lime, with 2 or 3 bushels of salt, which should be thoroughly mixed with the soil some weeks before the plants are set out. Pulverize well before setting out the plants.

*Manures.*—Mr. Pardee says: Do not use animal or barnyard manures for the strawberry. Quantity and quality have both been secured and decidedly increased by the use of vegetable manures only. Animal manures cause the plants to run too much to vines, and to start its runners before it has perfected even the earliest part of the fruit crop. Leaf-mould, decomposed turf or peat, well composted with new surface soil, or muck, ashes and lime is a good manure for the strawberry. Few good soils need enriching at all for the strawberry. Most rich soils would be benefited by being depleted by an admixture of half river sand. It is better to feed the *fruit* properties than the plant. Overfeeding is one of the most frequent as it is one of the most fatal errors into which strawberry growers fall.

In the latter part of April or the first of May, in our latitudes it is well to give the plants an impetus by liberally showering them every ten days with a solution in six gallons of water, of one quarter of a pound each, sulphate of potash, sulphate of soda (glauber salts) and nitrate of soda, with one and a half ounces of sulphate of ammonia. Plaster is always injurious to the strawberry and ashes judiciously applied, beneficial.

*Transplanting.*—A delicate operation. The Spring is perhaps the best season. The ground is soft and moist, and the weather usually favorable at that time. The next best season is the month of September. Plants are easily obtained then, the moist fall weather has commenced, ground works easily, and there is not much difficulty in making them line There is one danger, however, to be especially guarded against in fall transplanting; that is, the plants may not get so firmly rooted as to be enabled to withstand successfully the severe frosts of winter. Covering liberally with straw will assist in remedying this. Transplanting has been done successfully every month from March to October 20th. Mr. P. says, for ordinary planting we prefer the 1st of July for several reasons: the ground if thoroughly prepared then will not be subject to become so hard packed, the weeds will not be so troublesome and if the plants get well started and are not checked in their growth, they will produce very nearly a full crop the following spring. Ten or fifteen days later will materially lessen the first crop. In Spring planting, March will answer south of Philadelphia, last April for the north.

*Manner of Transplanting.*—The best way is to take the first runners, as soon as fairly set, and remove them with a transplanting trowel, without disturbing the earth or roots. When plants come from a distance, care should be taken to get as large a portion of the fibrous roots as possible. To do this saturate the ground well with water before the plants are taken up. The next thing to be done is to dip the roots in a little mud hole made in the garden soil, until there is a good coating of mud on them.

For transplanting, the earth should be made as level or flat as possible. If raised into beds or hills it will invite the drought to which the strawberry plant has a decided aversion. The plants should then be set out leaving the roots in as nearly a natural position as possible; with the fingers press the pure earth compactly around the body of the plant, being careful not to set the plant too deep. If there is any old bark or decayed portion of the leaves on the plant, remove it before setting out. An old plant will usually renew itself by sending out a new set of roots on being transplanted, and it should be remembered that the strawberry plant while it places its roots warily near the surface of the ground, yet a portion of its longer roots penetrate favorable soils to a depth of from two to four feet and even a greater depth in some places.

We shall in our next continue these valuable instructions showing how mulching, watering, and general cultivation should be done, also giving a list of the best varieties.

## OLD FASHIONED FLOWERS.

Mr. Breck in his excellent "Book of Flowers" hits one of the follies of the age pretty roundly in the following extract from the Gardener's Chronicle. The rage for novelties is one of the characteristics of our country, and we are compelled to say is not always governed by standard principles either in economy or taste. We commend the extract to the perusal of such of our readers as are disposed to set aside old favorites for new ones, which are neither as easily cultivated, or as beautiful when cultivated.

"Among the many follies which the gardening world commit, none is more striking to the looker-on, than the eagerness with which old favorites are deserted for new ones. Of all inconstant lovers, gardeners must surely be the most inconstant. To-day they are at the feet of a Dahlia; to-morrow there is no beauty like a Pansy, and both are presently deserted for a Cineraria. In their eyes, old age is a crime, and aged flowers are mercilessly consigned to the poor house. We remember when Cape plants were the rage; a Brunsvigia, or an Ixia, or a Protea, were standing toasts; to possess such fair objects was the height of man's ambition. But in a few years these were thrown aside, and New Holland beauties supplanted them; to be succeeded by the flaunting, or shy and delicate, natives of South America. If we look to an old garden catalogue, we can but wonder how the flower-garden was decorated by our fathers; for there we find little beside races now known only by name.

"Marigolds and Candytufts, Love-lies-bleeding, Globes and Balsams, Catchflies and Cockscombs, Daisies and Dittany, Persicarias and Prince's Feather, Lupins, Tricolors and Marvels of Peru, Sunflowers and Sweet Sultans,—pride of the eighteenth century—ye have all fallen victims to the flickering meteor called taste; and are now only to be found in the old drawers of old seed shops, where you are but the curiosity of floriculture; or in remote country gardens, not yet reached by steam or electricity. Even in acknowledging an acquaintance with Hollyhocks and China Asters, we do so under a feeling of something like shame at being known to keep such doubtful company.

"Are these follies to have an end? Shall we never be wise enough to look upon all flowers as equal? Do we not yet know that what is called the difference in their attractions, is but a difference in our skill in managing them; and that they are all endowed with wondrous beauty, varying in kind, but the same in nature? Most especially must we inquire whether the arts of the cultivator should be limited, as they are, to the domestication of a few fashionable races, to the entire neglect of the ancient inhabitants of the flower-garden? A Hollyhock is as showy as a Dahlia, infinitely more graceful, much easier to cultivate, as prone to run into varieties, and hardy instead of tender; yet the lumpish Dahlia is seen everywhere; societies are formed to admire it and to gamble in it; and the Hollyhock is consigned to a few places, where, as at Shrubland. refined taste still excludes fashionable vulgarity. The Amaranths are a race peculiarly suited for rich autumnal decoration,—quick-growing, many-sized, and long-enduring,—no doubt susceptible of further change; but they are abandoned for the sake of Petunias and Chrysanthemums. Surely it would be wiser to try to improve those ancient races, which are so well suited to our climate and our purses, than to limit our skill to tampering with the constitutions of the delicate, though brilliant, strangers that have taken such entire possession of our affections.

"Let no man say that they are incapable of improvement. Who has tried the experiment? Who has tried to cross the Prince's Feather with the Cockscomb, or Love-lies-bleeding with the Tricolor, or the Bee with the Dwarf Larkspur? or the Persicaria with the straggling Buckwheat, (*Polygomum divaricatum*)? or the Indian Pink with the Carnation? or the Marigold with the Coreopsis? Until these trials have been made, with at least as much care as has been shown in the managing the Calcolaria, or the Pansy, we must be permitted to say that our ancient friends are unfairly treated, and that we are doing ourselves much disservice.

## PRESERVATION OF THE APRICOT TREE.

The Apricot is nearly allied to the plum, and is less susceptible, of intense cold than the peach; but it appears to be more easily injured by *changes* of the weather, and those familiar with its culture, are equally familiar with disappointments from dead and dying patches of bark on the trunk, often extending all round, or over the whole surface, and inevitably destroying the tree. This is the great drawback in the culture of this very early, most desirable, and delicious fruit—the *curculio* is within the control of *labor*.

We have great confidence in the protecting influence of evergreen boughs. Procure a wagon load, more or less, from the nearest hemlock, pine or spruce woods, or from the cedar swamp, early in winter, and proceed to tie them on each apricot trunk, so as to shade it from the winter or spring sun, and protect it from cold winds, and the best remedy is undoubtedly applied. It may not prove infallible in all cases, but is certainly worth trying. Will our intelligent readers, who cultivate the apricot, and who have a fear of the bark disease, give it a trial, and report results.

## FOOD FOR THE PEACH TREE.

As the peach tree is so generous in its growth and in its exuberant crops, it is necessarily a great exhauster of the soil, and must have the support of proper manures. It is also essential to its prosperity that the soil should be kept open, and free from grass or weeds. I have found that the cultivation of many kinds of root crops requiring manures and frequent stirring of the soil, such as potatoes, beets, turnips &c., are quite consistent with the health and vigor of the tree, but that, when the soil becomes bound through a dense growth of grass, which excludes light and air from the roots it soon dwindles, becomes sickly, takes on the *yellows*, and dies. At the period of *stoning of the fruit*, a large demand for silica is made upon the soil, which must necessararily be dissolved, and conveyed through the roots, trunk, and branches, in a soluble state. It is probable that, along with carbonic acid, some kinds of alkaline manures, such as lime, or a mixture of one-third potash and two-thirds salt, contribute most powerfully to aid the efforts of the tree in effecting its solution, and, with this view, I have caused a handful or two, according to the size of the tree, to be applied upon the soil, and forked in to the distance of about three or four feet around each one at the time of the examinations for worms in May and September. A dose of guano, to the same extent, in lieu of the above, is also excellent.

"The Concord Grape," says the *American Agriculturist*, "which caused so much discussion at its introduction some four years ago, is settling down to a place among standard fruits, in northern gardens. No grape was ever introduced with a louder flourish of trumpets, and few were ever assailed with severer criticism. It is gradually winning favor, and appears destined to become popular, where the Isabella will not ripen. A fruit grower in Connecticut recently informed us, that it has done remarkably well with him, ripened this year by the first of September, while the Diana did not mature until the 16th, and the Isabella not until the last of the month. This is valuable testimony to its early maturity. The price has fallen from five dollars to one, and is now within the reach of all who desire it. We hear of gentlemen who are making large plantations of it."

New Grape "Canadian Chief."—The handsomest and largest bunch of grapes grown in the open air that we have seen, has been sent us by Mr. G. W. Fearman, of Hamilton, Canada West. It is a seedling white grape, somewhat resembling the Chasselas, and quite good enough for the table, for which it will be a fine ornament. It is a hybridized fruit. From the somewhat immature state of the seed, we should judge that the grapes had been pulled prematurely, and that a greater development of the saccharine principle would have resulted from its longer continuance on the vine.

It was grown, in Hamilton, by the Rev. James Brennan, and is quite hardy even in Canada. The bunches weighed from sixteen to twenty-four ounces; the vine is a most prolific bearer, producing and ripening this year, cold and backward as it has been, one hundred and thirty-four clusters, a great many of them weighing a pound and a pound and six ounces. It is a decided acquisition. Mr. Fearman is the agent for its sale, which, we predict, will be equal to his ability to supply.

With the grape came a photograph, exhibiting the vine covered with its tempting bunches.

We seem to be entering upon an era of new grapes; hybridizing has just begun to exhibit its results, and we may well congratulate the successful experimenters, but still more the benefited public. A good gardener said to us, lately: "I consider the introduction of a new and valuable flower to confer a greater honor than being elected President of the United States." We add, that the originating an entirely new and valuable fruit—a grape like this, or the "Rebecca"—confers more real honor than to be the facetious Emperor of France.—*Horticulturist Journal.*

## ON THE CULTURE OF SWEET-SCENTED VIOLETS.

It may be of use to your readers, to detail the method which I pursue in the treatment of Sweet-Scented Violets, especially as I have not seen a paper on the subject from any of your contributors. I consider the Neapolitan Violet to be the best sort in cultivation, but it unfortunately requires protection in winter. To treat them with advantage, about the end of April take the old roots and part them, plant them out in beds on a north or northeast border, there to remain till the end of September; then take them up, and pot them in thirty-two-sized pots, in a mixture of vegetable mould, road-scrapings, and loam; if not sufficiently gritty, add a little coarse river sand. Place a tile in the bottom of each pot, likewise a handful of potsherds broken very small. Water them, and plunge them in a frame in cinder ashes, elevating them to within a few inches of the glass; draw off the lights in fine, dry weather, and protect them from rain and damp; they will flower profusely the whole of the winter. They will also bloom in a greenhouse, provided they are placed in a dry, airy situation. This kind has a flower, light blue and is sweet scented. The New Russian Violet is, without exception, the best *hardy sort* we have, as it blooms profusely the whole of the winter in the open ground in any situation, which makes it very desirable to cultivate. Bedding them out every two years, about the end of April, in a dry soil, is quite sufficient; they require less room than many other kinds, as they make but few runners; a large, single, purple flower, very fragrant. The Banksian Violet has a sweet perfume, flowers single, purple, but not so profuse in blooming as the former. It requires to be planted on a warm border under a south wall, in March or April, and attended with water in dry weather; it will flower early in autumn. Several other varietes might be enumerated, but they are less worthy of notice.—*Cottage Gardener.*

Torreya Taxifolia.—This evergreen has been pronounced among the most satisfactory of the rarer sorts. It stood, at Wodenethe, last winter uninjured, except that the leader was a little whitened; the specimen there is now twelve feet high. It resembles the yew, and comes from Florida, where it attains the height of from twenty to forty feet, with numerous spreading branches, the appearance not unlike the hemlock; the leaves are broader than the yew, and marked with two longitudinal lines. The ripe fruit, or, rather, seed, is as large as a nutmeg, but has no fleshy cup as in the yew, but the external coat of the seed itself is leathery, and covers the whole, leaving a minute perforation at the summit.

It is found on the calcareous hills of the Apalache River as well as the Aspalaga, and south of Suanna. The tree is still scarce in our nurseries, but deserves a more extensive cultivation than it has yet received. It is surprising to find how slowly some of our valuable California and Florida trees are being attended to. There could be little difficulty in procuring the seed.

It is a Torreya that has been said to be a nutmeg-tree, by the wise men emigrated to California.—*Horticulturist Journal.*

## THE HYACINTH.

There is hardly a flower in cultivation so generally a favorite as the hyacinth, and certainly not one which so gratefully repays the attention bestowed upon it. There is not a medium capable of retaining moisture but it will grow in, and give us as good a bloom when planted in wet sand as it will in the richest compost. Many people ought to be thankful for this spring visitor, from those whose delicate hands put the finish to the beautiful stands which grace the drawing-room, to the salamander-like men who, in a heat that would broil a steak, blow the thousands of glasses employed to grow them in water. There is not a smoky hole in the most confined manufacturing town in which the hyacinth will not bloom, if allowed moisture of some kind in which to lengthen its silvery roots. If we calculated by the means required for its growth, instead of the price of a root, it might truly be called the poor man's flower. There is scarcely an individual who is permitted to live in daylight, but may indulge himself with two or three, if he be fond of flowers, and they will afford gratification till the bloom is over. Let everybody who can raise three flower-pots, or three hyacinth glasses, buy a bulb of each color, and they will have flowers—ay, if they grow them in a smoky attic, or a still more smoky kitchen.—*Horticulturist.*

The *Revue Horticole* speaks highly of the *Skirret* as a garden vegetable. It belongs to the family of Umbellifus, and is a perennial plant, with bunches of fusiform, fleshy roots, from 6 to 10 inches in length, and from three-fourths to an inch in diameter, somewhat crooked, of a russet color externally, the flesh being white. It is one of the richest alimentary roots, with a flavor resembling celery. The tubes are boiled, and served up with butter. They are also fried, and used for soups. It is propagated by seed and by slips, the seeds being sown early in March. It is easily cultivated growing freely in light soil of good quality. The seedling tubes are preferred to those grown from slips, being young and tender.

## GREEN FLIES.

A writer in the last Horticulturist says the only effectual remedy for these pests of the green house—the green flies—he has ever found, was to immerse his plants in a mixture of tobacco, one-fourth pound; soft soap, one pound; water, five gallons. Four months after the immersion, he did not find a single fly upon his plants.

## AGRICULTURAL CHEMISTRY ASSOCIATION OF SCOTLAND.

A correspondent in the present number, has alluded to the formation of a Protective Association, for the purpose of guarding against the frauds which he alleges are perpetrated upon the farmers of this country. It may be interesting to our correspondent as well as others of our readers to know something of the principles of such an association. The following account of the Agricultural Chemical Association of Scotland, we find in a recent English publication. Why should we not have such associations here? We know of no good reason why every State in the Union should not boast of an association of its own. We have, it is true, Agricultural Societies, and State Chemists, but where are the great results which we have a right to expect, and which have so abundantly followed the efforts of the Scottish Association. If we would derive the same benefits, we must resort to the same means.—If farmers desire to be benefited by the labors and researches of distinguished scientific men, they must be willing to pay part of the expenses, and we are very sure that such an association, once formed, would be afterwards nobly sustained:

The more recent labors of another society must also be referred to, for the genius of Scottish agriculture is nowhere more strikingly apparent than in the origin and institution of the Agricultural Chemistry Association. The art of farming had previously been raised to a comparatively high state of excellence by intelligent and skillful practice, but its susceptibility of still greater expansion was perceived and admitted by many, and by none more readily than by those whose practice was the most successful and the least open to censure. The best farmers were conscious that there was something beyond mere empirical formulæ required to insure a thorough knowledge of their art. They had ceased to be satisfied with the fact that certain results generally flowed from particular causes—that so much manure produced so many tons of roots or bushels of corn, and were desirous of having the *modus operandi* of the action of manures and of substances used in the feeding of live stock. No experience could afford such information, and the dogmas of practice were unable to lift the veil which concealed the secret operations of nature. Scientific truths can only be interpreted by scientific means; and to attempt to do so by the force of mere practical knowledge, is as vain as to try to expound the philology of a language without being acquainted with its written characters. Fortunately for the science of agriculture in Scotland, a large proportion of her farmers were alive to the fact, that the boundary line of practice could only be extended by the expansive and generalizing truths of chemistry and its cognate sciences; and nothing can more clearly manifest the wide-spread desire for a union between the details of practice and the suggestions of science, than the fact that in one market place, and in the course of one day, sixty tenant-farmers were found ready and willing to subscribe for a period of five years to obtain the services of an analytical chemist. The merit of suggesting and advocating the establishment of this association is undoubtedly due to Mr. John Finnie, farmer, Swanstone, Mid Lothian; and it is highly honorable to the farmers of Scotland that one of themselves has had the liberal spirit and intelligence to perceive the important results that would necessarily flow, both directly and indirectly, from calling in the aid of chemical science to assist the operations of practical agriculture; and equally creditable is it to the Lothian farmers and others that many among them came forward so heartily and liberally to support Mr. Finnie's scheme. This gentleman had been long impressed with a conviction that some effectual check should be given to the vast amount of adulteration practised in the manufacturing of artificial manures at home, and also in those natural substances, such as guano, bones, and nitrates brought from abroad; and he arrived at the just conclusion that chemistry alone could remedy the evil, and hence occurred the idea of obtaining for the farmers of Scotland the services of an analytical chemist. Mr. Finnie further saw, that the appointment of such an individual would tend materially to enlighten farmers on two important points of farm practice—first, as to the best modes of managing and applying home-made manure; and secondly, as regards the relative feeding properties of the different substances generally given to live stock.

In July, 1843, the association was fully constituted, with Andrew Coventry, Esq., as honorary secretary, and an effective staff of influential noblemen and gentlemen as an acting committee of management, and having a subscription list of £900 per annum—each subscriber guaranteeing the sum put down against his name for five years. The committee then advertised for a chemical officer in the most widely-circulated Scotch newspapers, and also in several of the London papers, which were known to be read abroad. The result was, that applications were received from ten individuals, all distinguished for their scientific attainments, and of whom two were foreigners. On carefully comparing and considering the merits of these candidates, the appointment fell upon Professor Johnstone, of Durham, who, having notified his acceptance, thereafter entered upon his duties, with a salary of £500 per annum, and a moderate scale of charges for executing analyses.

The association carried on its operations during the five years of Professor Johstone's engagement in a steady, useful, and satisfactory manner, by which time the Highland Society saw the importance of having a chemical department in connection with itself; and upon the assurance that the directors would appoint a chemist, and afford to tenant-farmers the same opportunities of obtaining analyses as before, the Agricultural Chemistry Association of Scotland was dissolved, and thus honorably terminated an experiment nobly conceived and spiritedly conducted. Dr. Thomas Anderson, the present chemical officer of the Highland Society, was then appointed by the directors, whose labors and those of his predecessor have been, and continue to be, annually embodied in the *Transactions of the Highland Society*.

## AGRICULTURAL LECTURES.

It is a fact worthy of special note, that while every department of science and the arts has its representatives among the thousands of lecturers who nightly attract crowded houses, not only in large cities, but in almost every town and village; agriculture is wholly unrepresented. Why this is so, we are at a loss to conjecture, for certainly the subject is one in which all are more or less interested, and one, which more than any other *should* claim anxious attention. We have agricultural Societies in abundance, but a remarkable paucity of lecturers. We are much pleased to announce that the *Philadelphia Society for promoting Agriculture*, has in this, as in many other praiseworthy directions taken the lead. At the Monthly Meeting in January, Mr. A. T. Newbold, Chairman of the Executive Committee, made the following report:

"Gentlemen—The Executive Committee respectfully report, that they have duly considered the proposition to provide lectures and hold discussions in the Reading Room of the Society, on Friday evenings during the winter, and that they deem the proposition worthy of serious reflection. If our room can be made the prominent centre of interest and instruction during the evening to those members of our own and other Agricultural Societies who are in this city, the objects contemplated in the organization of our Society will be more fully accomplished than during any previous period of our history. The Committee do not feel confident that this can be done with the means now at the disposal of the Society, yet the plan proposed is certainly worthy of a trial, and the Committee recommend that this be made for your successive Friday evenings, commencing with the 9th inst., in the following manner:—On the evenings designated, a member of the Society or any other gentleman, by invitation of the Executive Committee, read an Essay on some Agricultural subject to be previously agreed upon between the writer and the Committee—after the reading of which Essay the subject and the manner in which it has been treated to be open for discussion, under the ordinary parliamentary rules; a chairman appointed for the evening presiding. The subject and the time and the place of these conversational meetings to be duly advertised.

"The Executive Committe further represent that greater publicity of the existence, objects and meetings of the Society, if given through our own members, would greatly increase our numbers, and extend our usefulness; and this, it is believed, can be done, if each member be supplied with a printed card, containing the place, days and hours of meeting of the Society, the terms of membership, &c.—In view of these considerations, the Executive Committee respectfully request the adoption of the following resolution:

"Resolved, That the Executive Committee be, and they are hereby instructed to make arrangements for the holding of conversational meetings, and to have printed the requisite number of members' cards.

"The report was received and the resolution adopted."

Now that the initiation has been taken, we can only hope that success will attend it, and that the example thus worthily set, will be emulated by every Society in the State. Why should not every town or village of any size, have weekly or monthly lectures on the subject of Agriculture? Are lecturers too scarce? By no means. There are lecturers in abundance—men of education and influence—who would take pleasure in giving the time and attention required to the subject, and we are led to believe that if the subject were taken hold of with the proper degree of vigor and earnestness, that Agricultural lectures and essays would become as popular as those on any other popular, scientific subject. We wish every desired success to the effort of the Philadelphia Society, and predict that it will be attended with the very best results.

While on the subject of lectures before the Philaphia Society, we will state for the information of such of our farmer friends and others as spend Friday evenings in the city, that the Rooms of the Society are open from 6 to 10 o'clock on that evening, and that all of the most valuable and recent agricultural and horticultural publications of the day will be found there. They are respectfully invited to avail themselves of the opportunity thus afforded them of spending a pleasant evening. These rooms will be doubly attractive in future, on the evening named, as the suggestions entertained in the report of the Committee will certainly be carried out.

## KEEP THE BALL ROLLING.

Now is the season for those who feel an interest in the cause of American agriculture, and the support of a Pennsylvania Agricultural Paper, to be up and doing, before the more pressing labors of the spring season are upon them. We are happy in being able to say that our old friends and subscribers are renewing by the hundreds daily, and for the many expressions of sincere interest in our enterprise, and very flattering notices of our efforts to render the Journal worthy of their support, we return, to one and all, our grateful acknowledgments. But, friends, while you are thinking about renewing your subscriptions, think also of your neighbor; and before closing your letter, go and get his name and his dollar to send along with your own. Don't let your interest in the cause flag, and we will promise renewed exertions to make the Journal meet the wants of the knowledge-seeking portion of our farming community.

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We are in receipt of several valuable communications from our friends, which shall appear in due time.

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Owing to the non-arrival of the Western mails, consequent upon the heavy snow, we are prevented from giving our readers any account of the proceedings of the Pennsylvania State Agricultural Society at their meeting on the 20th ult. It will appear in our next issue.

## AN AGRICULTURAL BUREAU FOR PENNSYLVANIA.

Governor Pollock, in his recent annual Message, directs the attention of the Legislature to the establishment of an Agricultural Bureau in connection with some one of the State Departments at Harrisburg. He says:

"Agriculture, in its varied departments, is the great interest of the Commonwealth. It is the basis alike of financial and commercial success, and of State and national prosperity. An interest so important should be fostered by the State and honored by all classes of society. To its promotion and success all should cheerfully contribute. In a former communication, I recommended the establishment of an Agricultural Bureau, in connection with some one of the State Departments, to give efficiency to the collection and diffusion of useful knowledge on this subject, and to encourage scientific and practical agriculture. Science, with wondrous energy, has aided the husbandman in his honorable vocation, and proffers still more help. The State should nerve his arm and cheer him onward in this, the first and noblest pursuit of man. This subject in connection with an appropriation to the "Farmers' High School of Pennsylvania"—an institution destined to be an honor to the Commonwealth—is recommended to your favorable consideration."

It is to be hoped that this noble suggestion will be carried out by our Legislators, and that they will give their farmer constituents, an opportunity at least, of having their interests considered, and properly cared for by them. The expense attendant upon the establishment of a State Agricultural Bureau would be but trifling, compared with the immense benefits which would certainly accrue from it. It is a singular fact that while the agricultural interests of Pennsylvania are decidedly greater than those of any other pursuit, less has been done to advance it than in many of far less importance. An annual appropriation is made to the State Agricultural Society, to be sure, and we venture to assert that no appropriation of equal amount has ever been productive of the same amount of general good, and if it were made ten thousand instead of two, the amount of absolute good effected by it would be in the same ratio as that realized from the lesser appropriation. We trust, therefore, that the great leading interest of the State will meet with that consideration at the hands of the legislature it properly deserves, and that Gov. Pollock's admirable suggestion will be carried out in a liberal manner.

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## FARMERS' HIGH SCHOOL OF PENNSYLVANIA.

At a meeting of the Centre county Agricultural Society, held in Bellefonte, on Tuesday evening, Nov. 25, 1856, the subject of the attacks upon the Farmers' High School of Pennsylvania, lately published in the *Reading Gazette and Democrat*, over the signatures of "A Farmer" and "H. Shubart," was introduced by Gen. Geo. Buchanan. He said the statements were calculated to injure the institution, and thought it the duty of the members of this Society—acquainted, as they were, personally, with the lands selected by the trustees for the site of the Farmers' High School, their fertility and productiveness, to correct the misstatements, whether undesignedly or intentionally made.

After some discussion, Hon. Jas. Burnside of Bellefonte, Gen. Geo. Buchanan, of Gregg township, John Baily of Ferguson twp., Jno. T. Hoover, of Bellefonte, and Christian Dale, of Harris twp., were appointed a committee to report resolutions expressive of the sense of the Society in reference to the Farmers' High School of Pennsylvania, and the location made by the trustees, who reported the following resolutions:

1st. *Resolved*, That for the promotion of improved agriculture, special practical education in all the arts connected with farming is the great want of the age as yet unsupplied.

2d. *Resolved*, That the establishment of the Farmers' High School of Pennsylvania, on the plan adopted by the trustees will meet that want in a manner at once the most complete, the most economical, and the most serviceable to the whole State.

3d. *Resolved*, That we have the most entire confidence in their ability, energy, zeal and disinterestedness, and that their active devotion to the establishment of the Institution will receive the lasting gratitude of all classes in the community.

4th. *Resolved*, That a more eligible location for the site of the school farm could not have been selected in Centre county, nor, as we believe, in any other county in the State.

5th. *Resolved*, That we fully endorse the statements of Hon. A. O. Hiester, in his reply to "A Farmer," and of the letter prepared by W. G. Waring, Esq., at his request, in reply to Mr. Shubart; the facts stated being well known to the citizens of this county as undeniable truths.

6th. *Resolved*, That as the elevation of the agricultural community will benefit all classes, socially and pecuniarily, an appropriation should be granted by the State, sufficient to secure the opening of the institution at the earliest practicable period.

7th. *Resolved*, That the improvements made and in progress upon the school farm, manifest the energy and good taste of those to whose direction they have been committed.

8th. *Resolved*, That W. G. Waring, who has been superintending the planting and preparation of the orchards, grapery, nursery, gardens, etc., well known in central Pennsylvania for his zeal and knowledge in the science of horticulture and arborculture, is one of our best and most respected citizens, a gentlemen whose integrity no man in this community has ever doubted, and that John Harmon and Wm. Blair, whose statements he gives, are men of intelligence and truth.

The report of the committee having been read, on motion of Hon. Samuel Strohecker, of Miles, it was unanimously adopted, and Mr. Shubart most respectfully invited to visit the site of the Institution and see for himself.

Whereupon, on motion of Hon. Jas. Burnside, it was

*Resolved*, That the proceedings of this meeting, signed by the President and Secretary, be forwarded to Hon. A. O. Hiester, together, with the letter of W. G. Waring, Esq., prepared at his request.

Geo. Boal, Prest.

Attest: Geo. Buchanan, Sec'y.
*Bellefonte, Nov. 26th*, 1856.

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**To the Editor of the Reading Gazette and Democrat.**

Dear Sir—The fame of your paper has become much extended among agriculturists of late, by the articles which have appeared in it on the subject of the Farmers' High School of Pennsylvania.

I have been requested to furnish you with names and data precisely exact, and from the ground itself, in order to meet the call of Mr. Shubart, as to the quality of the soil; its general yield, under present tillage; its market value; the supply of wood and water; and the healthfulness of the location—This I proceed to do.

The Soil is strong limestone, tempered with sand into a loam, which works "like flour," yet does not run or bake, part is gravelly, and a narrow strip is quite stony on the surface; all is very retentive of moisture during drought. It is underlaid by limestone, which is shelly on the top, and full of crevices lined with sharp sand, forming a perfect drainage under every square foot.—In a few spots points of rocks appear at the surface, but there is not so much as one acre in the whole 400 which is unfit for cultivation, from this or any other cause. A good idea of the character of the soil may be formed from the fact, that, several acres of sod were plowed lately by Mr. John Harmon, with a double Michigan plow, set to 9 inches deep. The draught required but two light horses, and although the surface was covered with a whole season's growth of dense spear grass, forming a cushion under the foot, it is buried so perfectly that over large areas not even the point of a blade of grass is left visible. It lies in the range of Nittany valley, a range not excelled anywhere for its natural adaptedness to wheat culture. Corn starts early, and ripens well; clover grows luxuriantly and never heaves out. The surface slopes easily to the south-east, and is well sheltered from injury by winter winds.

Yield.—John Harmon and William Blair, (Boalsburg P. O.) who cleared and occupied the greater part of the land in question, between the years 1844 and 1853, have handed me a statement of their crops. Mr. Harmon's account is a copy from his books, to the correctness of which he can certify.—It makes the average yield of wheat in fair seasons 20 to 27 bushels per acre, and of corn in the ear at 110 bushels. In 1853 he gathered 3490 bushels from 34 acres, although no rain fell from planting time till August 14th, sufficient to soak the furrows. Three successive crops from one field, were respectively 27½ bushels of wheat per acre: 26 bushels wheat on stubbles and 167 bushels of ears of corn. Mr. Harmon says he is confident that 180 bushels of corn in the ear per acre, can be raised from a twenty acre field on the farm in its present condition, in a fair season.

Mr. Blair's averages, are about the same as Mr. Harmon's or higher. John and Emanuel Honts, now of Pine Grove Mills P. O., rented a farm adjoining the School Farm in the year 1841. They were young men without means, other than some savings from daily labor, which enabled them to buy two old horses and some implements. After farming six years they were able, from their share of the crops, to buy 70 acres of land, one mile west of the School Farm.—They remained there four years, during which time they bought 50 acres more, and then sold and purchased another farm of 280 acres in the same range, on which they now live, raising an annual average crop of 3000 bushels of corn in the ear and proportional crops of wheat, and are in independent circumstances.

Henry Pennington, Wm. Blair, Jeremiah Myers, and Piersol Lytle, may be named among others as men who have farmed on or near the School Farm, and in a few years bought farms of their own from the proceeds of their crops, and who may be inquired of or about, through the Boalsburg Post Office.

The School Farm has the handsomest location that could have been chosen, parts of five different farms having been cut off to favor it.

Value per Acre.—The only farms sold lately in the vicinity, were sold to R. M. Foster, late of Hartleton, Union county, and Wm. R. Foster of Centre county, at seventy dollars per acre. R. M. Foster raised 100 bushels of corn to the acre, the present very dry and unfavorable season. Wm. R. Foster sold eight acres of his land lately at 125 dollars per acre, no improvements on it.—Piersol Lytle, referred to above, after paying for 100 acres and expense of clearing, by the crops grown on the land, bought and mostly paid for over 200 acres, more, in the woods, and away from roads, mostly at 40 dollars per acre.

I may mention here that Col. Young, one of the delegates from Allegheny county, to the meeting on the farm, for the election of trustees, declared, that he had travelled the states from Arkansas to Minnesota, and eastward, and he had *nowhere* seen so rich and handsome an agricultural section, as the one he had viewed that day, in the midst of which the School Farm is located, or one so newly improved and at the same time embellished with so large and substantial buildings.

Wood.—There is about 40 acres of woodland, so situated that it shelters much of the farm. It consists of an unusual variety of timber, in young and vigorous growth, being now from ten to thirty feet high. For adaptedness to the special educational purposes of the farm, it could not be selected of better size, position or character. The management of it will afford ample illustration of the whole art of forest culture, whereas, large fully grown trees, could afford no advantages, but those of grander appearance, and immediate fitness for being chopped down and split up. As lumber, rails, and coal, are conveniently obtainable from the mountains, it is not considered wise here, to hold a large amount of rich valley land occupied with timber.

One of the two pieces of woods, lies just behind the college buildings, and will form a beautiful academic grove.

As to the ominous word "barren" it was applied by the earliest settlers, who entered Nittany from the valley of the West Branch, to the upland, of the east end of the valley, which was then covered with a low growth of oak sprouts—now fine rail timber, where left uncleared. For a long time they confined their culture to the narrow flats along the streams, and did not discover the value of the upland, which forms the great body of the territory. The name they applied was naturally extended to all land in the valley similarly situated, but of course becomes obsolete as the land is cleared and occupied.

Water.—The supply of water is as abundant and its quality as good as could be desired, even by a professed water curist. True, there is no *surface* stream, nor are there any of the attendant disadvantages, no ravines, no bridges, no hilly or stony lanes no washing away of soil or manures, no inconveniently situated buildings, brought to the steeps of the water side, because the water cannot be taken to them, no exposure of man or beast to the miseries or precipitous perils of a winter-day's watering.

Water, like fire, is a good servant but a bad master, and requires to be kept under constant and thorough control, to prevent the always injurious consequences of excess, either *in* the soil, or *on* its surface. Such control is attainable on the School Farm in the fullest perfection. The entire natural and acquired fertility of the soil can be retained within the boundary lines, and within reach of the roots of crops. An ample supply of soft water is now at convenient command, by turning a cock or using a chain pump, and abundance of clear healthy spring water, of the best quality, can easily be made to flow through all the buildings, in the driest season by a simple self-acting apparatus, either from the well to which Judge Heister refers, which is 56 rods from the site of the college edifice, or from a well, which may be sunk near the building, or in the higher ground north of it.

About 120 rods from the farm line, is "Centre Spring," marked on the State maps as one the most remarkable springs in the country. The water is extremely clear and pure, and sufficient in volume to drive a furnace and 4 run of millstones, immediately below the source. At least three or four branchlets of the stream flow from the School Farm, in underground channels, where it is *most desirable that water should flow* when not in use.

But if there were *no other* than cistern water on the farm, it would be held as no objection here. Our practising physicians agree that the use of cistern water, properly collected and kept, is conducive to health, and it is very much used in this section. Judge Hiester speaks of the excellence of cistern water, which he drank here, in the months of July and October. The farm on which he drank that water, has no other, and it is located in the same range of once-called barrens; nevertheless, it could not be bought for $140 dollars per acre. The residents and workmen on the farm, all prefer the water from the cisterns to that of the beautiful spring from which Bellefonte derives its name.

Healthfulness.—The testimony of one of our oldest and ablest physicians has been voluntarily given on this point in the August number of the Farm Journal, (p. 234.) Hon. Dr. Strohecker of Rebursburg P. O., Centre co., Pa., who is, I believe, a native of your county, can be referred to on this or any other subject, connected with the matter under discussion. The truth is, that both the water and the air are *eminently healthful*, the prevailing winds blow fresh from the pines of the Allegheny, and there is not within scores of miles, either stagnant water, or any other cause of deterioration to the air. Young men from crowded towns, or miasmatic river bottoms may here acquire both sound health and good physical development, under the light and varied labors in the free air, which will be required to illustrate their studies.

Having now given plain and careful statements on the points requested, I must beg leave for a paragraph or two in addition.

Judge Heister in a private letter, gives assurance that Mr. Shubart is a gentleman, who will conduct a discussion with fairness. Were it not for this assurance, I should feel great reluctance to notice Mr. Shubart's communications at all. The sneering insinuations against the noble generosity of Gen. Irvin, and against the lofty philanthropy of the trustees of the Institution, have the appearance to every one knowing the real facts, of the most malicious and criminal slander conceivable, because aimed at some of the best men, and one of the most beneficent enterprises of our state and time.

I have read communications from many friends of agriculture in various parts of the State, enclosing a "Farmer's" letter and asking information regarding it. Those who *know* all about the location of the farm school, speak of Mr. Shubart's articles in terms that he might wince to hear. *They cannot* attribute *good* motives to such outrageous misstatements, and wicked calumnies. Others, who have not seen the location, ask in manifest alarm whether there can be a *shadow of truth* in the allegations, each one declaring at the same time, that he finds it impossible to conceive that men, known over all the state, for their eminent success as practical farmers, and thorough business men, should end a laborious examination of so many offered sites, by choosing any other than the very best, or should jeopard an institution on which so much hope centres—one, with which their names will ever be associated, and which is to them a charge involving much unreturned expense and care, by locating it anywhere but in a situation combining all the essential advantages.

Who the "highly respectable gentleman known throughout Pennsylvania, for his zeal to promote agriculture, who has *minutely* examined the location of the farm school," and has aided Mr. Shubart to his conclusions—is—I confess I am curious to know and entirely at a loss to guess. Mr. Shubart will it is to be hoped, visit the ground, and see for himself. I have been engaged in preparing the ground, and in planting on the farm, and have therefore examined it as minutely as months of opportunity and different instruments and implements would allow, and have not, in my capacity, been able to find any fault at all

with the location unless it be, that it has *too few faults* to allow sufficient opportunity of proving and exhibiting to students, on the home grounds the mastery of human skill over natural difficulties. All the objections, that have been charged against it, including its seclusion, for the idle crowds of any large town, seem to me to be, in the actual truth of the case, among its most positive advantages.

W. G. Waring.

*Near Boalsburg, Pa., Nov. 24th,* 1856.

## THE UNITED STATES AGRICULTURAL SOCIETY.

Held its Fifth Annual Meeting at the Smithsonian Institute, Washington, D. C., on the 14th, 15th and 16th ultimo. The proceedings were of a highly interesting character, but reached us too late for a more extended notice. President Pierce was present, and occupied a seat upon the stand; Secretary Guthrie and other notables were also interested spectators of the proceedings. The meeting was called to order by the President of the Society, Hon. M. P. Wilder, who proceeded to read the resignation of the Secretary of the Society, Wm. S. King. On motion of B. B. French, the famous "Wheel-Barrow Man" Major Ben Perley Poore, was appointed Secretary *pro tem.* President Wilder then read his Annual Address, giving, in an able and eloquent manner, a very clear idea of the past and present operations of the Society. Invitations were presented on the part of Maryland and Kentucky to hold the next exhibition in those States. The report of the nominating committee was read and accepted; and the following gentlemen were unanimously elected as officers for the ensuing year:

*President*—Col. Marshall P. Wilder.
*Secretary*—Major Ben Perley Poore.
*Treasurer*—Major B. B. French.

*Executive Committee*—Hon. Jno. A. King, of N. Y., Gibson Mallory, of Kentukcy, Dr. A. L. Elwyn, of Pa., D. J. Browne, of D. C., Edwd. Hobbes, of Ky., Hon. Fred. Smith, of N. H., Dr. A. C. Stevenson, of Ind., and a Vice President from each State and Territory.

Votes of thanks were given to Mr. King, the retiring Secretary; to the Municipal Authorities of Philadelphia; to the Philadelphia County Agricultural Society; and to the Local Executive Committee for services rendered during the recent exhibition at Philadelphia; also, to Jno. McGowan, Assistant Secretary, Chas. W. Harrison, Assistant Treasurer, and other efficient officers at the Philadelphia Exhibition.

It was decided in favor of Louisville, Ky., as the place for holding the next exhibition of the Society: the Southern Agricultural and Mechanical Association at that point offering its grounds free of charge, and guaranteeing $30,000 as an idemnity against any excess of expenses over receipts.

# Book Table.

*Hand-book of Inorganic Chemistry, for the Use of Students.* By William Gregory, M. D., F. R. S. E. Fourth American Edition. To which is added *The Physics of Chemistry;* by J. Milton Sanders, M.D., LL. D., Prof. Chemistry in the Eclectic Medical Institute of Cincinnati, &c. New York: A. S. Barnes & Co., publishers.

Mr. Sanders has done the public a special favor in presenting the valuable work of Prof. Gregory complete. The first American edition, like the European, did not contain the *Imponderables*, a very important department of mordern chemistry—embracing light, heat, and electricity. These branches, as the Editor remarks, have now become an inseparable department of modern chemistry, not only from their relations to "general chemistry, but to medicine." To meet this want, the American Editor has supplied this indispensable matter. He does not claim for it the merit of originality; very modestly and appropriately remarking, that "In the present advanced state of chemical science, when so many accomplished persons are daily exploring its wide domains and culling such rich matter from them, to pretend to compose an original work upon either of the departments of chemical science would be but to perpetrate an insult upon the understanding of the intelligent reader." The work is therefore offered to chemists, teachers, and physicians as a condensed treatise, relating more to words than to matter, for it comprises within its few hundred pages a complete treatise upon the doctrines of Inorganic Chemistry.

*The Ancient Hebrews; with an Introductory Essay Concerning the World before the Flood.* By Abraham Mills, A. M., author of "The Poets and Poetry of the Ancient Greeks," &c. New York: A. S. Barnes & Co., publishers.

We have perused this handsome volume with much gratification, and we think with profit. The author has aimed at giving a general sketch of the history of the world, from the time of Abraham to the destruction of Jerusalem by the Romans, and to present a simple and unambitious narrative of all that transpired in connection with the history of the ancient Jews. Mr. Mills has of course drawn the materials of the work from the Bible, so far as practicable. Where the Bible narrative closes—five hundred years before the final downfall of the Hebrew nation—he has availed himself of the narratives of Josephus of Jerusalem, and Philo of Alexandria, which, though uninspired, are authentic and reliable. The work is dedicated to the religious public, and we have no doubt that it will meet with favor at their hands.

*Transactions of the New York State Agricultural Society*, 1855.

We are indebted to B. P. Johnson, Esq., Sect'y. N. Y. S. A. Society, for a copy of the above work; for which we tender him our hearty thanks. Among its valuable contents we notice an able essay on "The Climate of the State of New York," by F. B. Hough; "Grasses and Herbage Plants," by Sanford Howard, handsomely illustrated; a number of essays on Draining; an exceedingly interesting "Treatise on Practical Husbandry," by Winslow C. Watson; "Report of the Noxious, Beneficial, and other Insects of the State of New York," by Asa Fitch, M.D., handsomely illustrated; together with the Reports of the County Societies, well engraved portraits of fine stock, &c.: comprising as a whole a volume of much interest to the farmer, and reflecting credit upon Mr. Johnson, under whose supervision it was prepared. The volume is handsomely printed and bound, and is we think a decided improvement upon the former volumes issued by the Society.

*The Ohio Farmer*, published at Cleveland, made its appearance at New Year in a new and greatly improved dress. Neighbor Brown, however, has not stopped at appearances—the contents keeping pace with the typographical improvement. The Farmer is a weekly, and is one of the very best on our list.

*The Rural New Yorker*, published at Rochester has also donned a new dress. It is now printed with smaller type and presents a handsome appearance, with excellent contents.

*Harper's Magazine*, for January, is on our table, and as usual is filled with contents of the most varied and interesting character. The illustrations are very fine, and as a whole it is just such a magazine as every family should take. We commend it to the favorable consideration of our readers. Price $3 per annum.

*Harper's Weekly.*—This is the title of a mammoth weekly issue by the Harpers of New York—a *family newspaper* of the first class, and which from the well-known reputation of the publishers as caterers for the literary world, is destined, we think, to have a circulation equal to their world-renowned magazine. It is elegantly illustrated, contains a vast amount of valuable reading matter, and is furnished at $2.50 per annum.

## PHILADELPHIA SOCIETY FOR PROMOTING AGRICULTURE.

At the recent annual meeting, the election of officers for the ensuing year took place, with the following result:

For President, Aaron Clement, Esqr.; Vice Presidents, A. T. Newbold and C. W. Harrison; Treasurer, George Blight; Recording Secretary, Dr. A. L. Kennedy; Assistant Secretary, P. R. Freas; Corresponding Secretary, Sidney G. Fisher; Librarian, John McGowan; Executive Committee, Messrs. Dennis Kelley, George Blight, A. T. Newbold, John Lardner, C. W. Harrison, Samuel Williams, and John McGowan.

## A RARE CHANCE FOR A NURSERYMAN.

One-third interest in one of the oldest and best established Nurseries in Pennsylvania for sale. The location is in a highly improved and fertile district, within a short distance of Philadelphia, reached by railroad. The business is large and increasing, the young stock is very extensive, and has been selected with every care, by importations and otherwise. This is a first rate opportunity for an energetic business man who would like to enter into the nursery business. As the opening is a very desirable one, a few thousands capital is required. Satisfactory reasons given for selling. For particulars address

GEORGE D. CHEYNEY,
Feb—1t 157 *North Third St., Philada.*

## MORRIS NURSERIES,

J. L. DARLINGTON & CO., Proprietors.

We offer for the Spring demand our usual large assortment of Fruit and Ornamental Trees, Shrubbery, Roses, &c., &c. The fruit department consists of all the leading varieties of Apples, Stand and Dwarf; Cherries, Stand and Dwarf; Pear, Stand and Dwarf. 20,000 Peach Trees, well grown, fine and thrifty. Also, a fine stock of Apricots, Nectarine, Currants, Gooseberries, Native and Foreign Strawberries, Raspberries, Rhubarb, Asparagus, Grapes, &c., &c. The ornamental department is very full, having spared neither money or labor to get up a stock to suit the wants of the public. We grow a large quantity of Oaks, Walnut, Maples, Ash, Lindens, Horse Chestnuts, Beech, Paulonias Poplars, Magnolias; also, Norway Firs, Balms, Austrian Pines, Spruce, White Pines, Junipers-arborvitæ for planting in masses, making screens or hedges, and a large lot of the finer and rarer trees for Parks, Cemeteries, Lawns, &c., &c.

Persons about planting new places either with fruit or ornamental trees would do well to call on or address the proprietors. For further particulars we refer to our Catalogue, which will be sent to all applicants. Terms cash, or a responsible reference in Philadelphia. Address,

J. L. DARLINGTON & CO.,
Feb—tf *West Chester, Pa.*

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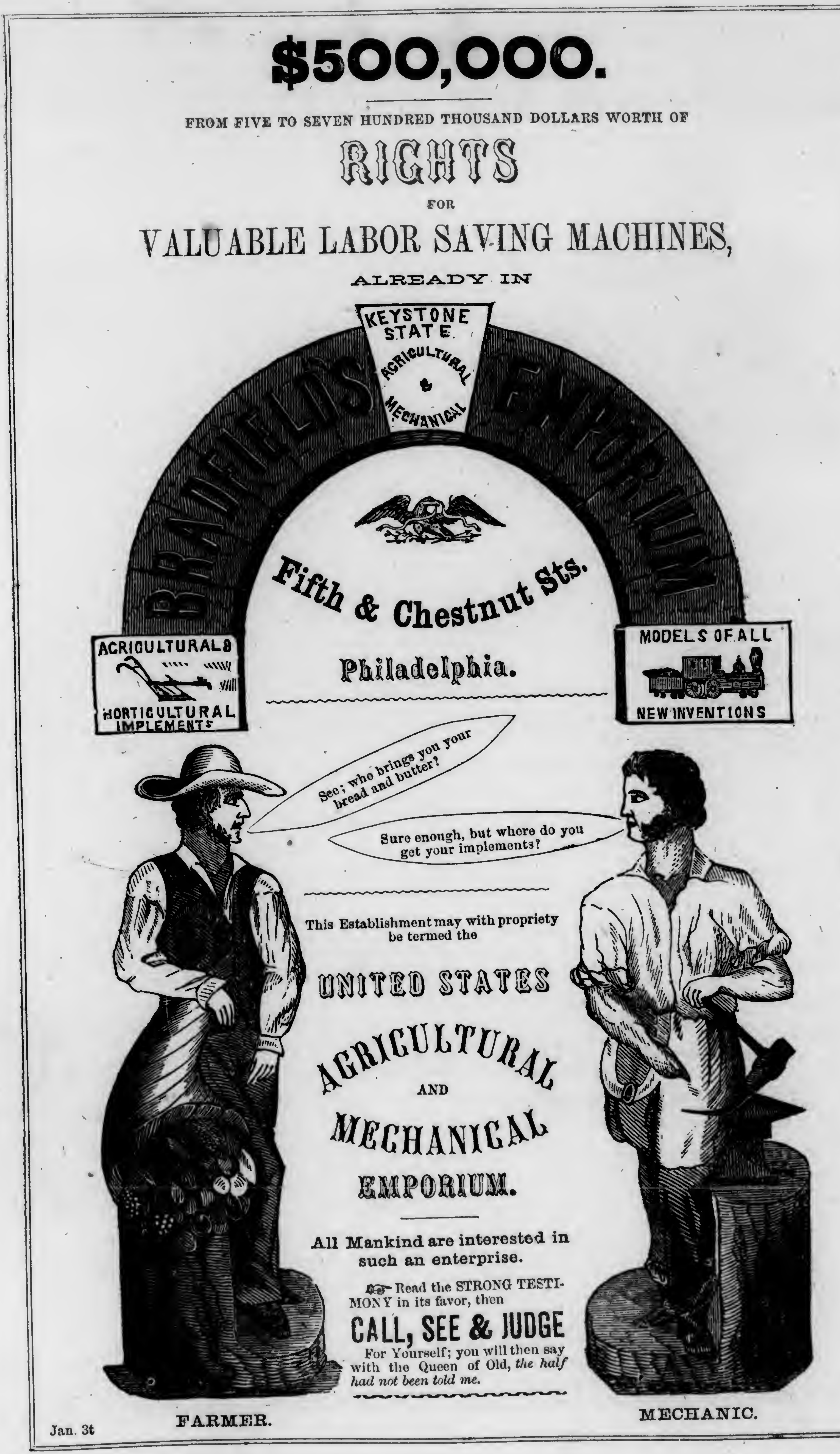

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AGRICULTURAL & MECHANICAL
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AGRICULTURAL & HORTICULTURAL IMPLEMENTS
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See; who brings you your bread and butter?
Sure enough, but where do you get your implements?
FARMER.
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Fifth & Chestnut Sts.
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This Establishment may with propriety be termed the

UNITED STATES
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All Mankind are interested in such an enterprise.

☞ Read the STRONG TESTIMONY in its favor, then

**CALL, SEE & JUDGE**

For Yourself; you will then say with the Queen of Old, *the half had not been told me.*

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For Yourself; you will then say with the Queen of Old, *the half had not been told me.*

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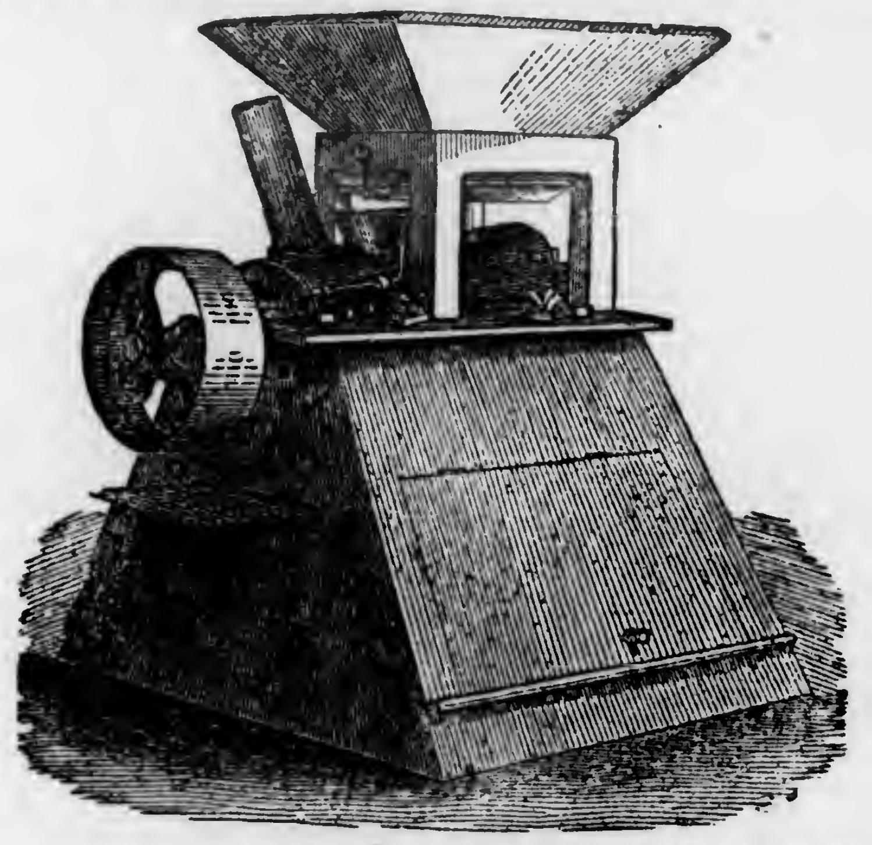
INTENTIONAL SECOND EXPOSURE

# COLEMAN'S FARM MILL



This is the most efficient, simple and durable FARM MILL now in use, and it precisely meets the wants of the farmer, as it is not only adapted to

**GRINDING CORN IN THE EAR,**

but will grind with rapidity

**SHELLED CORN, WHEAT, RYE OR OATS,** *Fine or Coarse Meal, or Superfine Flour*, if required. It is easily attached to horse or any other power, and will *grind from EIGHT TO FIFTEEN BUSHELS PER HOUR*, according to power and speed. This Mill is constructed on an entire *new principle*, which has never been used, so that it can be run for years without any perceptible wear. In fact, it has proven itself to be the only efficient and DURABLE mill now in use. We invite farmers and dealers to call at our Seed and Agricultural Warehouse, **No. 29 Market Street, Philadelphia,** and see one in operation. This Mill has received the following premiums;

1st Premium at the Delaware State Fair, 1856.
1st do. do. Chester Co., Pa., Fair, do.
1st do. do. Berks do. do. do.
1st do. do. York do. do. do.
1st do. do. Franklin do. do. do.
1st do. do. Salem do, do. do.
1st do. do. Cumberland do. do.

☞ All Mills sold are warranted to give satisfaction. We are manufacturing three different sizes. Prices—No. 1, for hand power, $10.00; No. 3, for two-horse power, $50.00; for steam or water power, No. 4, $60.00. A liberal discount made to dealers.

ROGERS & BOYER,
No, 29 Market St., Philadelphia.

Dec—tf

# GRASS SEEDS.

200 Bushels Prime Green or Native Grass Seed.
1000 Bushels Prime Orchard Grass Seed.
500 Bushels Prime Red Top Grass Seed.

For sale by ROGERS & BOYER,
*Agricultural Implement and Seed Store*,
No. 29 Market Street, Philadelphia.

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# CORN SHELLERS.

Rogers & Boyer have now in store a large assortment of heir premium

**GOTHIC CORN SHELLERS,**

and are prepared to furnish them Wholesale and Retail on the most favorable terms.

ROGERS & BOYER,
*Seed and Agricultural Store*,
No. 29 Market Street, Philadelphia.

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A LARGE SUPPLY OF THE CELEBRATED

**STAR CORN SHELLERS,**

## Daniel's Hay, Straw & Fodder Cutters,

**SAUSAGE MEAT CUTTERS, SAUSAGE STUFFERS, &c., &c.**

Constantly on hand, and for sale at the lowest prices, by PASCHALL MORRIS & CO.
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N. B. All orders promptly filled.

# SICK AND AFFLICTED.

## DR. SWAYNE,

Believing it inconsistent with sound principles to recommen one medicine for every disease, has prepared those suitable to meet every case. Dr. Swayne's Compound Syrup of Wild Cherry, for all diseases of the Pulmonary Organs, Throat, Breast and Lungs, has performed many astonishing cures. Dr. Swayne's Sugar Coated Tar Pills cleanse the Bowels, restore the Liver and Bilious Secretions to a healthy condition. Dr. Swayne's Vermifuge for the destruction of Worms, Dyspepsia, &c Dr. Swayne's Catholicon, a valuable Bitters for Weakness, Dyspepsia, to build up the old, the feeble, the debilitated, the depressed in spirits, &c. Dr. Swayne's Fever and Ague Pills, sure cure, 50 cts. a box. Dr. Swayne's Panacea cures Scrofula; great Blood Purifier. Dr. Parris' Soothing Syrup for Children Teething, gives instant relief by rubbing on the gums. Dr. Swayne's Bowell Cordial, for all Bowell Complaints. Dr. Swayne's All-healing Ointment cures all Eruptions.

### Another Astonishing Cure,

*By Dr. SWAYNE'S Compound Syrup of Wild Cherry.*

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DR. SWAYNE,—Dear Sir: Believing it a duty I owe to the public, and in justice to you, I have thought proper to make known one of the most extraordinary cures, in my own case, that has ever been truly recorded. In the month of October last I was afflicted with a severe gathering in my breast, which formed a large abscess, and also communicated to my Lungs and very much afflicted them, and discharged large quantities of corruption, external and internal. My breath could also pass through my Lungs and out through the cavity of my breast with apparent ease, attended with a violent cough, day and night, loss of appetite and extreme debility, so that my physicians thought my case entirely hopeless and beyond the power of medicine. I remained in this wretched condition for a long time, until I was wasted to a mere skeleton, and there seemed to be no hope for me; but having read in the public papers of the many wonderful cures performed by your COMPOUND SYRUP OF WILD CHERRY, I commenced its use, and to my great satisfaction and to my anxious family's, the abscess or opening in my lungs began to heal, and the cough subside, and on using ten bottles I was restored to perfect health. I feel very grateful, and firmly believe, that to your valuable medicine, under the blessings of Divine Providence, I am indebted for this great change, and I am happy to say that I am now enjoying as good health as I ever have.

Over five years have elapsed, and I still remain a perfectly hearty man at this date, June 2d, 1856 I have not had a day's sickness for the last eighteen months. Please accept my grateful acknowledgments, Yours, very respectfully,

THOMAS DIXON.

The subscriber is well acquainted with Thomas Dixon, and can testify that he has been afflicted as above represented. I regard his recovery almost as a miracle. He is a worthy member of our Society. JAMES R. BURBOROW,
Pastor of Berlin Circuit, Baltimore Conference.

The above invaluable medicines prepared only by
DR. H. SWAYNE & SON, *At their Labaratory*,
No. 4 North Seventh St., second door above Market, Philada.

Sold by Druggists and Storekeepers everywhere, of whom SWAYNE'S U. S. ALMANAC for 1857 can be had *gratis*.

Jan—1yr

A. HARSHBARGER,
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## OSAGE ORANGE HEDGES,

**McVeytown,**
**MIFFLIN CO. PA.**

**A large lot of Plants always on haud.**

A full description of these useful and beautiful hedges, with directions for planting, trimming, &c., will be cheerfully given by addressing as above. Jan—tf

## TO YOUNG MEN.

*Pleasant and Profitable Employment.*—Young men in every neighborhood may obtain healthful, pleasant and profitable employment by engaging in the sale of our useful and popular books, and canvassing for our popular Journals. For terms and particulars, address, post paid, FOWLER & WELLS,
No. 308 Broadway, New York.

P. S. All Agents who engage with us will be *secured from the possibility of loss*, while the profits derived will be very liberal.

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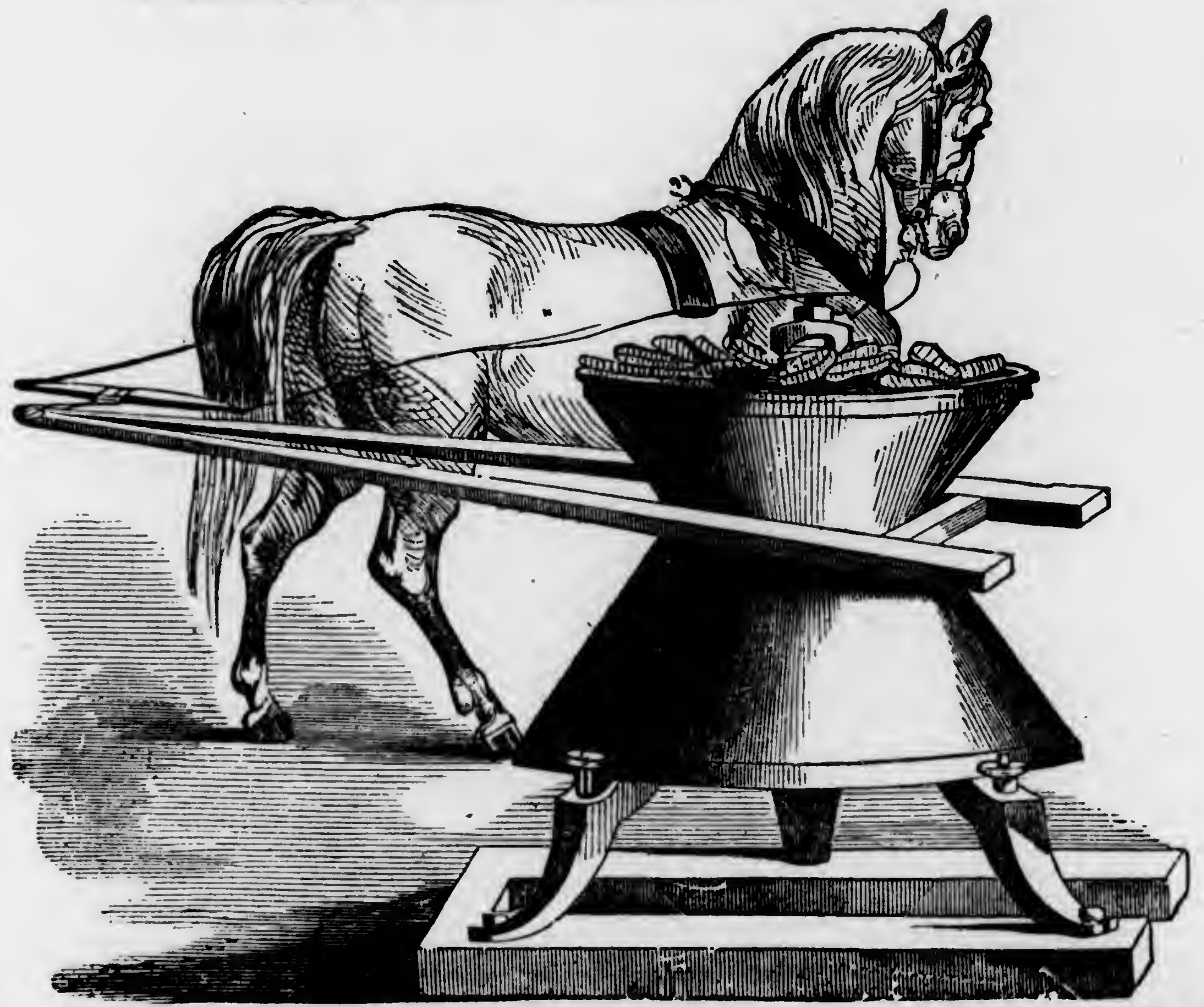
# GRANGER'S MAGIC
# CORN AND COB AND MEAL MILL.

## PATENTED SEPT. 18, 1855.



## TO PLANTERS, FARMERS AND STOCK FEEDERS.

Your attention is called to this celebrated Mill, which has received the approbation of the public at the various State and County Fairs, 1856, and which has taken the first Premium over all other Mills at the following State and County Fairs:

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| PENNSYLVANIA, . . | 1855 | OHIO, . . . . . | 1856 | LOUISIANA, . . | 1856 |
| NEW YORK, . . . | 1855 | ILLINOIS, . . . . | 1856 | S. CAROLINA, . . | 1856 |
| MARYLAND, . . . . | 1856 | MICHIGAN, . . . . | 1856 | TEXAS, . . . | 1856 |
| NEW JERSEY, . . | 1856 | GEORGIA, . . . . | 1856 | MASSACHUSETTS, . . | 1856 |
| VIRGINIA, . . . . | 1856 | ALABAMA, . . . . | 1856 | NEW YORK, . . | 1856 |
| PENNSYLVANIA, . . | 1856 | | | | |

The construction of this Mill, and which renders it superior to others, are these:—It grinds Corn and Cob finer, requires about one-half the amount of power of other Mills, and by the use of Friction Rollers at the base of the outer Shell, it prevents the fine teeth coming in contact, (which they do in other Mills); and after YEARS of use, can be repaired at an expense of $3.00, making it equal to a new Mill. It is not injured if worked when empty. These facts and the superior Castings, make this Mill, beyond all doubt, superior to all others.

For further information, apply to the manufacturers,

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**PASCHALL MORRIS & CO.,**
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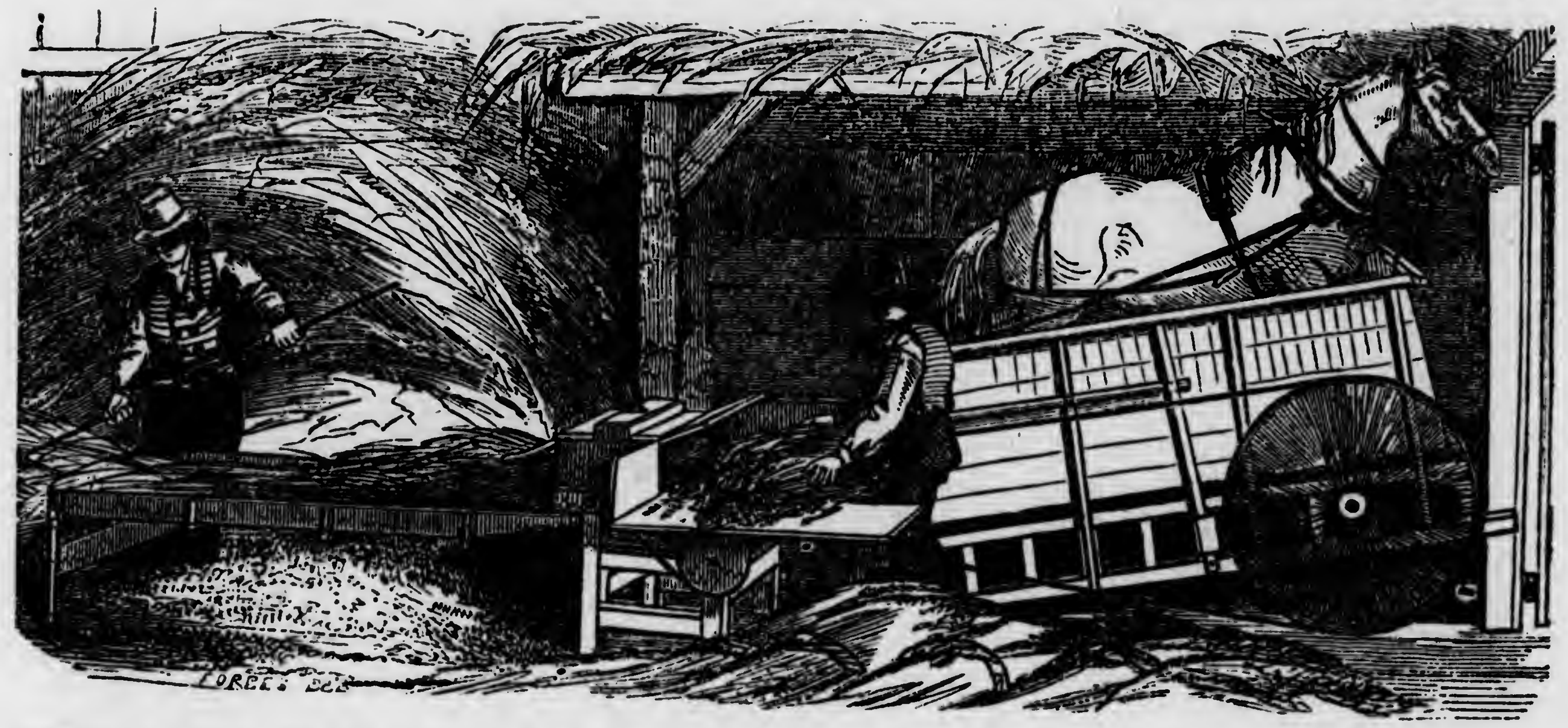

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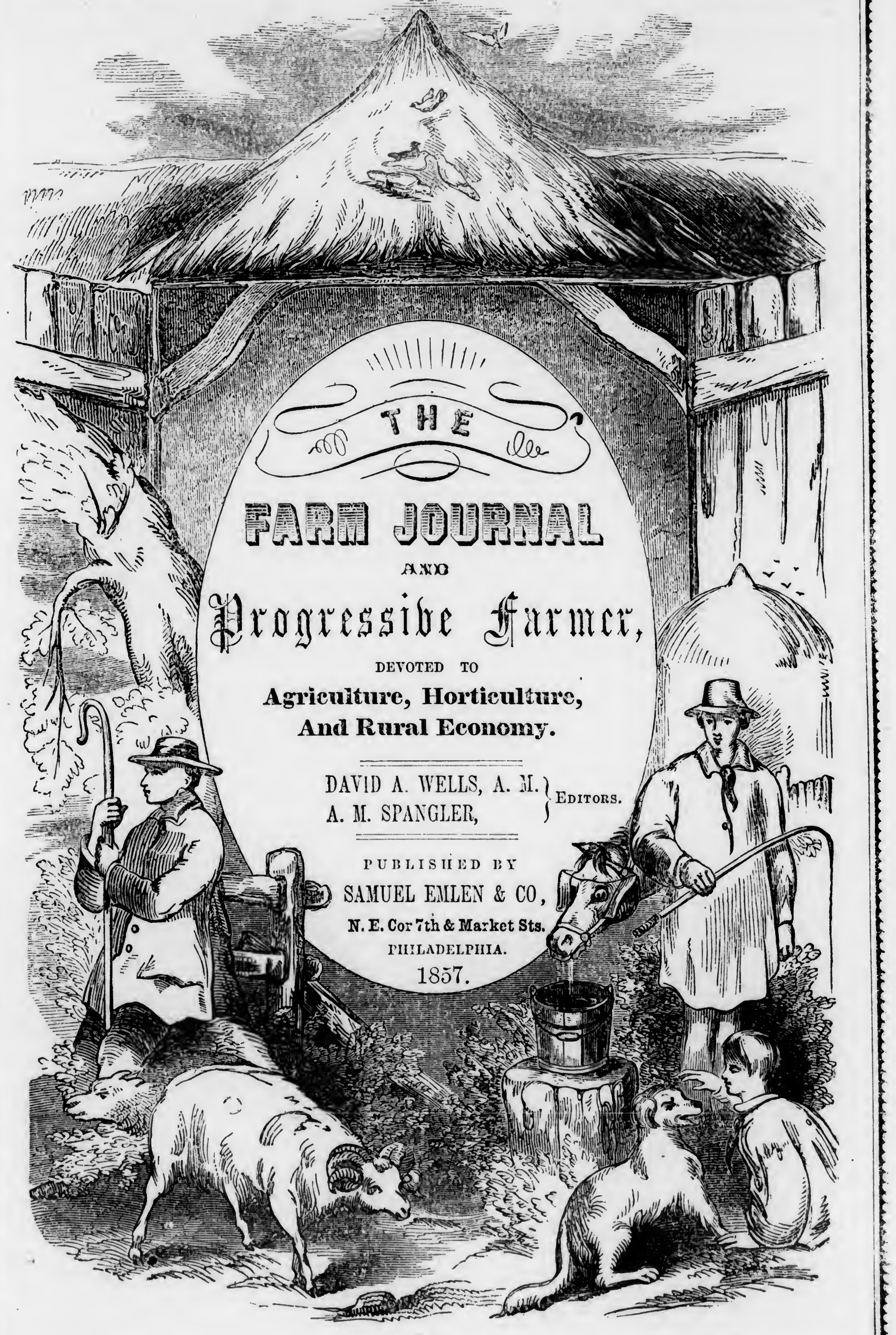

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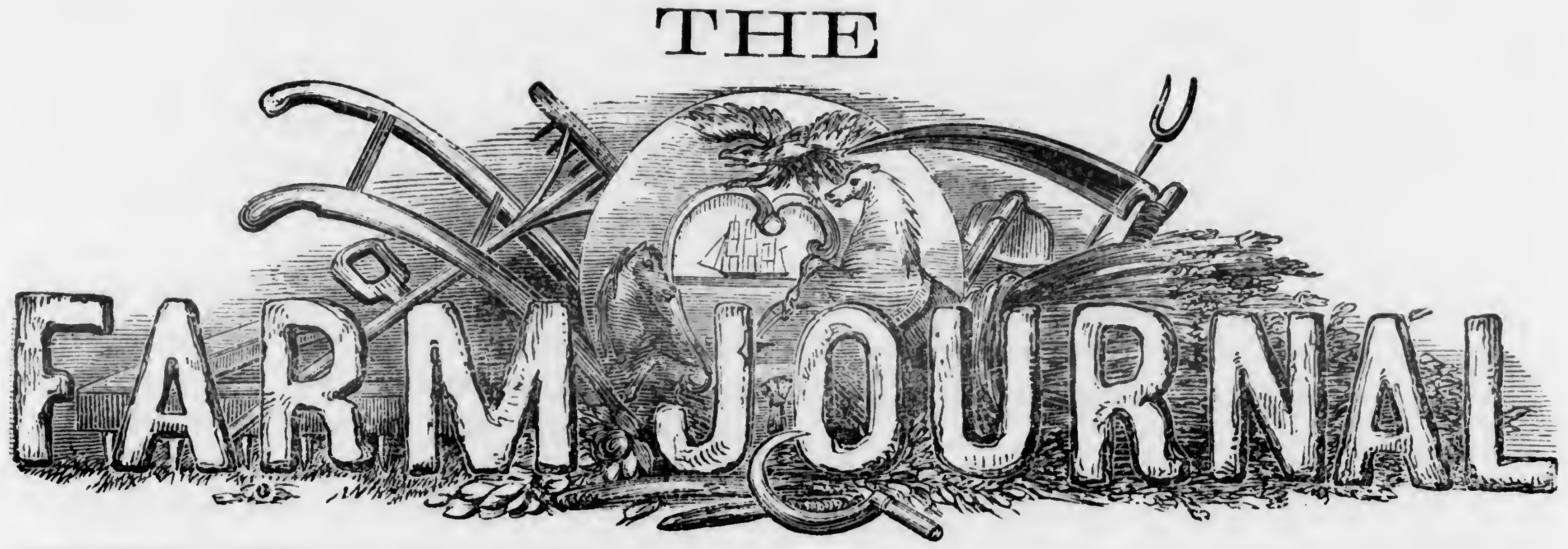

THE FARM JOURNAL

VOL. VII. PHILADELPHIA, MARCH 1857. No. 3.

## ANCIENT AGRICULTURE.

Are the principles of agriculture materially different from what they were before the advent of Jesus Christ upon earth? In answer to this question, Messrs. Editors, let us see what Socrates says in his "Science of good Husbandry," as written by his pupil Xenophon. For the benefit of those of your readers unacquainted with ancient history, I will remark, that Socrates was the greatest philosopher that ancient Greece ever had. He was born in the year 471 before Christ. The observations upon the agriculture of his day which I am going to quote, occur in a conversation between Socrates and another Athenian.

"Then I suppose, good Socrates," answered Ischomachus, "you would have me instruct you in the science of husbandry?"

"That is my desire," said Socrates; "for the science of husbandry is extremely profitable to those who understand it; but it brings the greatest trouble and misery upon those farmers who undertake it without knowledge."

"I shall first of all, good Socrates," said Ischomachus, "acquaint you that husbandry is an honorable science, and the most pleasant and profitable of any other; it is favored by the gods and beloved by mankind, and may be learned with ease. Husbandry, therefore, is becoming a gentleman; for if we were to take a view of all creatures upon earth, those only are esteemed and worthy our regard, which are docile enough to become profitable to us; while the others, which are wild and fierce in their nature, and are not capable of becoming useful to us are rejected."

"If I remember right," said Socrates, "you have already instructed me, that a steward or deputy should first love you, then be diligent; in the next place he should be able to rule, and then be honest; but I am impatient to hear how he must behave himself in the practice of husbandry, with regard to the works, when and how they are to be done; but hitherto you have not explained those particulars, but passed them over as if you thought I knew as much of the affair as yourself, or understood the business. For my part I am in the same state, with regard to husbandry, that a man would be who does not understand letters, and you were to show him a writing; he will be never the better for seeing the writing, unless he know the use of the letters that composed it. So I imagine that it is not enough to be diligent in the science of husbandry, but a man must understand every particular of it. This I suppose you are a master of, but you have not yet acquainted me with the matter. Therefore if I was now to set about the business of husbandry, I should be like a quack in physic, who went about visiting of sick people, and neither knew their distempers, nor what was proper for them. Therefore, good Ischomachus, I desire you will learn me every particular point of the husbandry you practice."

"Good Socrates," replied Ischomachus, "the science of husbandry is not like other sciences, which require length of time to study them, or a great deal of labor to compass them before a man can get his living by them; for husbandry is easily learned, by observing the workmen now and then, and by consulting those who understand it. By these means you may instruct your friends in it.

"Again, we may observe, that men of other sciences, which are artificers, will always keep some secret of their business to themselves; but the husbandmen are open and free in their discoveries, that every one may learn from them.

"The husbandman who has the greatest knowledge in the planting of trees, is proud of being observed, or that any man takes notice of his excellence in that art. And the sower is no less pleased to have any one stop to look upon him. And if you ask him about anything which has been well done in his way, he will be free enough to inform you how it was done. And so, good Socrates, we may see by this, that husbandry teaches men good manners and good nature."

"This," said Socrates, "is a good beginning; and

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TO ADVERTISERS.—The "OEKONOM," a Monthly Agricultural Journal, published at Bethlehem, Pa., is an excellent advertising medium for those having Agricultural Implements, Trees, Flowers, Plants, Cattle, Lands, Manures, &c., for sale. It is the best and most proper mode of reaching the German Farmers of Pennsylvania and the great West. Advertisements inserted at the usual rates.

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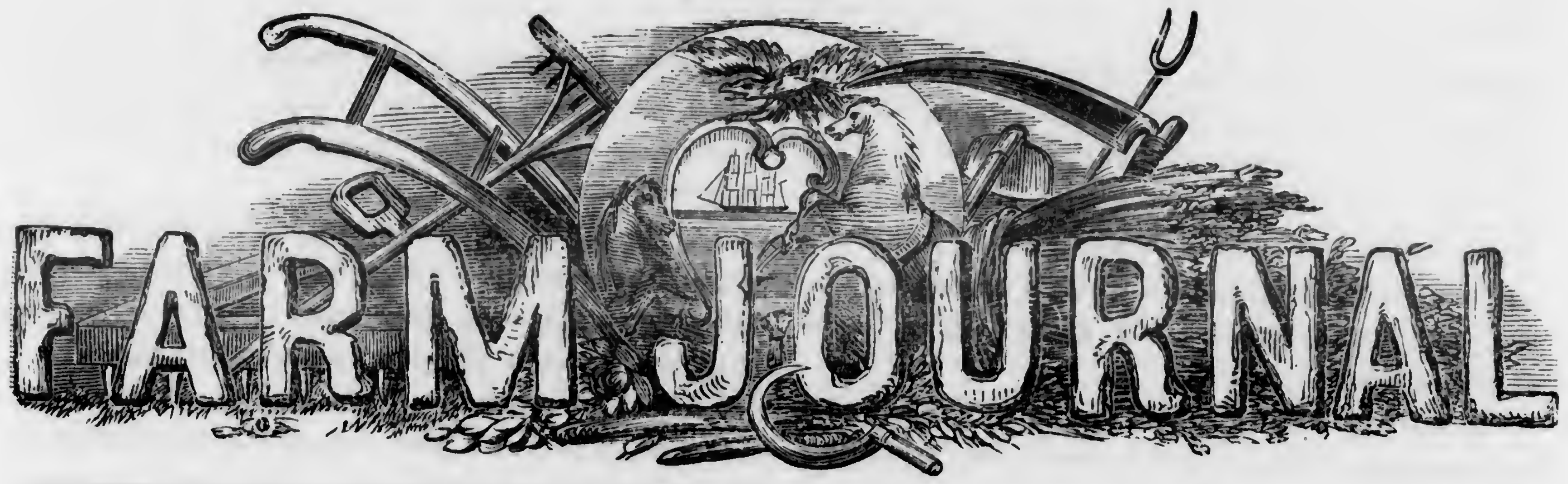
# THE FARM JOURNAL



VOL. VII. PHILADELPHIA, MARCH 1857. No. 3.

### ANCIENT AGRICULTURE.

Are the principles of agriculture materially different from what they were before the advent of Jesus Christ upon earth? In answer to this question, Messrs. Editors, let us see what Socrates says in his "Science of good Husbandry," as written by his pupil Xenophon. For the benefit of those of your readers unacquainted with ancient history, I will remark, that Socrates was the greatest philosopher that ancient Greece ever had. He was born in the year 471 before Christ. The observations upon the agriculture of his day which I am going to quote, occur in a conversation between Socrates and another Athenian.

"Then I suppose, good Socrates," answered Ischomachus, "you would have me instruct you in the science of husbandry?"

"That is my desire," said Socrates; "for the science of husbandry is extremely profitable to those who understand it; but it brings the greatest trouble and misery upon those farmers who undertake it without knowledge."

"I shall first of all, good Socrates," said Ischomachus, "acquaint you that husbandry is an honorable science, and the most pleasant and profitable of any other; it is favored by the gods and beloved by mankind, and may be learned with ease. Husbandry, therefore, is becoming a gentleman; for if we were to take a view of all creatures upon earth, those only are esteemed and worthy our regard, which are docile enough to become profitable to us; while the others, which are wild and fierce in their nature, and are not capable of becoming useful to us are rejected."

"If I remember right," said Socrates, "you have already instructed me, that a steward or deputy should first love you, then be diligent; in the next place he should be able to rule, and then be honest; but I am impatient to hear how he must behave himself in the practice of husbandry, with regard to the works, when and how they are to be done; but hitherto you have not explained those particulars, but passed them over as if you thought I knew as much of the affair as yourself, or understood the business. For my part I am in the same state, with regard to husbandry, that a man would be who does not understand letters, and you were to show him a writing; he will be never the better for seeing the writing, unless he know the use of the letters that composed it. So I imagine that it is not enough to be diligent in the science of husbandry, but a man must understand every particular of it. This I suppose you are a master of, but you have not yet acquainted me with the matter. Therefore if I was now to set about the business of husbandry, I should be like a quack in physic, who went about visiting of sick people, and neither knew their distempers, nor what was proper for them. Therefore, good Ischomachus, I desire you will learn me every particular point of the husbandry you practice."

"Good Socrates," replied Ischomachus, "the science of husbandry is not like other sciences, which require length of time to study them, or a great deal of labor to compass them before a man can get his living by them; for husbandry is easily learned, by observing the workmen now and then, and by consulting those who understand it. By these means you may instruct your friends in it.

"Again, we may observe, that men of other sciences, which are artificers, will always keep some secret of their business to themselves; but the husbandmen are open and free in their discoveries, that every one may learn from them.

"The husbandman who has the greatest knowledge in the planting of trees, is proud of being observed, or that any man takes notice of his excellence in that art. And the sower is no less pleased to have any one stop to look upon him. And if you ask him about anything which has been well done in his way, he will be free enough to inform you how it was done. And so, good Socrates, we may see by this, that husbandry teaches men good manners and good nature."

"This," said Socrates, "is a good beginning; and

INTENTIONAL SECOND EXPOSURE

now you have come thus far, I cannot leave you till you have given me every particular relating to husbandry; and especially I insist upon it, because you say it is a science so easy to learn. You will therefore have the less trouble to instruct me; and it will be the greater shame to me, if I do not learn it by your instructions, particularly since it is so profitable a science."

"I am very willing to answer your desire," said Ischomachus, "and instruct you in every point of husbandry.

"The principal part, which men dispute about, is the soil. On this account, all the philosophers, who have busied themselves about it, have given us more words than truth; for they throw some occult quality in the way, which leaves us as we were before; and at the best tell us, that he, who designs being a husbandman, must first know the nature of the soil."

"It is not contrary to my opinion," said Socrates, "that one ought to know the quality of the soil; for those who do not know what the ground will bring forth, how can they appoint either trees, plants, or seeds for it, which are natural to its intent or proper for it?"

"Dear Socrates," said Ischomachus, "this is easily discovered, by observing the grounds of other people, where you may see the diversities of plants growing on them, and by a little observance that way, you will learn what they will produce, and what are contrary to their nature; and when a man has once made his due observation of this, he will see that it will be unprofitable to resist nature or the will of Providence. For when a man plants or sows those things which he accounts necessary for his use, and the soil does not delight in the nourishment or production of them, or has not a will to bring them forth, his expense and trouble is to no purpose. But if he cannot discover the nature of the grounds, next about him, which either through idleness or any other cause, have been mismanaged or neglected, let him consult other lands remoter from him; and if even they happen not to be cultivated, he may learn by the weeds that grow upon them, what they will produce; for those plants which grow wild, show best the inclination and disposition of the soil, so that husbandmen may even learn their business by observing what the ground will produce of itself."

"Then," replied Socrates, "I perceive that a man need not abstain from husbandry purely because he does not know how to describe the nature of a soil; for, I remember, I have seen fishermen who have employed themselves continually upon the sea, without inquiring what the water is or its principles, but pass over it, and when they find any thing to their advantage they take it, and leave the rest. The same, I suppose, is the design of the husbandman; when they look upon soils, it is to observe what they bring forth that is valuable, and what they will not."

"In what part of husbandry would you have me begin," said Ischomachus, "dear Socrates, for you talk like an adept in the science? Your reasoning is good, and must proceed from understanding."

"All that I mean by reasoning with you," replied Socrates, is to know how I shall till the ground, so as to reap the most profitable crops of corn, or other fruits from it; for it is becoming a philosopher to inquire into those things which are pleasant and profitable."

"I suppose," said Ischomachus, "you already understand that the stirring or breaking of the ground, which one may call fallowing, is of great advantage."

"This," answered Socrates, "I believe."

"And suppose we were to fallow or plough the ground in winter?" said Ischomachus,

"That I don't approve of," said Socrates, "for the earth is then too wet in my opinion."

"And what do you think if we were to turn it up in the summer?" said Ischomachus.

"Then I doubt," said Socrates, "it would be too dry and hard for the plough."

"Then let us plough," said Ischomachus, "in the spring."

"I think you are much in the right," said Socrates, "for then the ground is most free and ready to open itself to the plough, and is also most ready to distribute its virtue."

"It is not only so," answered Ischomachus, "but then whatever weeds are upon the ground, being turned into the earth enrich the soil as much as dung. And again, these plants are not grown to such a point of maturity or perfection that their seeds are ripe, and therefore cannot fill the ground with weeds; and besides, I suppose you know that both the fallowing and the tilling of ground is always the better as the ground has the fewer weeds in it; for, besides the hindrance the weeds may give to corn, or other profitable herbs, they prevent the ground from receiving the benefit of the sun and free air."

"This I agree to," said Socrates.

"Then," replied Ischomachus," do you not think that often stirring the ground in summer will be the best way for it to enrich itself by the air and sun, as well as to destroy the weeds?"

"I am very sensible said Socrates, "that weeds will wither, and dry quickly in the summer; and the ground can never receive more benefit from the sun, than if it is stirred with the plough, or fallowed in the heat of summer; and if a man dig his ground

in summer, he will have the same advantage in destroying of weeds, which will then soon die; or else, by turning them in before they seed, they will enrich the ground; and by the turning up of the earth, at that season, the sourness and rawness of that, which is turned up, will be corrected by the sun."

"So I find," said Ischomachus, "that we are both of one opinion concerning the stirring and fallowing of the ground."

"It is true," said Socrates, "but, to proceed to sowing, do you allow that the old opinion, which is agreed to and followed by the present operators in husbandry, concerning the season of putting the seed into the ground, is agreeable to reason, or are you of another opinion?"

To this Ischomacus replied, "When summer is once past, and September is upon us, all men then wait the pleasure of the gods to send rain to moisten the ground and prepare it for the seed; and, as soon as the rains fall, then every one employs himself in sowing, as the gods seem to direct."

"Then," said Socrates, "it seems that all men in the world have determined, by one assent, that it is not convenient to sow when the ground is dry; and those who act against this rule of nature are sufferers by it."

"We agree likewise in this," said Ischomachus.

"Then," Socrates replied, "I perceive that mankind consent to the order of nature, which is the will of the gods; as for example, every one thinks it convenient to wear furred gowns and warm clothes in the winter, and then also to make a good fire if he can get wood."

"But there are many," said Ischomachus, "who vary in their opinions concerning the time of sowing, some will sow sooner, others later."

"There is good reason for that," replied Socrates, "for the gods do not always give us the same kind of weather one year as another. Therefore it is sometimes best to sow early, and at other times it is better to sow late."

"I allow what you say," said Ischomachus, "but whether it is best to sow much seed, or little."

"I am of opinion," answered Socrates, "that it is best to allow seed enough, and distribute it truly and equally upon the ground; but one may sow the seed too thick, as well as employ too small a quantity of it."

"I agree with you," said Ischomachus, "in this point."

"I imagine," said Socrates, "there is a great art in sowing."

"It is surely so," replied Ischomachus, "for there are many sorts of grain, and all of them must be cast upon the ground by a man's hand."

"I have seen that," said Socrates.

"But some men," replied Ischomachus, "can cast it even, and distribute it equally upon the ground, and others cannot."

"Then I suppose" said Socrates, "that the skill in sowing the seeds depends upon the frequent practice and exercise of the hand; as those who play upon the harp or other instruments of music, must keep their hands continually in practice, that their fingers may readily follow their mind."

"You reason well," said Ischomachus, but suppose the ground is light and open, or suppose it is stiff or heavy?"

"What would you have me understand by that," said Socrates; "do you not take the lighter ground to be the weakest, and the heavy ground to be the strongest?"

"I am of that opinion," said Ischomachus.

"I would then fain know of you," said Socrates, whether you would allow the same quantity of seed to one kind of ground as you would to another, or whether you make any difference."

"You know, good Socrates," said Ischomachus, "that it is as natural to put the most water to the strongest wines, and the stronger a man is, the greater burden he may carry; so some men are nourished with a very spare diet, while others require a greater share of nourishment; the same ought to be considered in our present case."

"Will not the ground," said Socrates, "grow more strong by the more use, as horses and mules are thought to do?"

"This I take as a jest," said Ischomachus, "but what I think necessary to acquaint you of, is, that you sow your grain when the ground is moist and has the best advantage of the air; and when the corn is come up and is high in the blade, if you then turn it into the ground with a plough, it will greatly enrich the land, and give it as much strength as a good dunging would do; and we must also remark, that if we continue to sow for a long space the same sort of grain upon any ground, but upon that especially which is weak or overcharged with seed, it will impoverish the ground, and wear it out of heart. We may compare this to a sow which suckles many pigs, and sustains them until they grow large; the more pigs she suckles the more will she be weakened."

"You intimate by this," said Socrates, "that one ought to sow the smallest quantity of grain upon the weakest soil."

"It is true," replied Ischomachus, "and is what we have partly agreed on before, that to overburden ground with seeds or corn, is the ready way to weaken it."

"But for what reason, good Ischomachus, do you make ditches or thoroughs in the corn fields?"

"You know very well," replied Ischomachus, "the wet is apt to do great damage to corn; for sometimes our cornfields are incommoded with waters, and the corn in some of its parts, smothered with mud; and besides, the roots of the corn in other places will be washed bare; the waters also carry the seeds of weeds to the lower part of the ground, and by that means fill the corn with weeds."

"I presume," said Socrates, "what you say is agreeable to reason."

"And do you think," said Ischomachus, "that corn which is subject to these inconveniences ought not to be assisted?"

"Undoubtedly," answered Socrates.

"Then what shall we do," said Ischomachus, "to prevent the waters from covering the corn with mud?"

"I find then," said Socrates, "it is proper to ease the ground from wet to secure the corn."

"But," said Ischomachus, "if the roots of the corn should be laid bare and the earth about them worn away?"

"Then I suppose," continued he, "the best way to remedy that, is to find some means of covering the roots with earth, that they may be well nourished."

"But if the weeds which may come up by this management," replied Socrates, "should suck up or destroy the nourishment which the corn ought to receive, like the drone bees in a hive, which are of no value in themselves, and yet live upon the industry of the working bees, and destroy the provisions which they have laid up to be manufactured into wax and honey."

"The weeds," replied Socrates, "should then be plucked up, as the drones in a hive are killed and discharged from it."

"Do you think then," said Ischomachus, "that water thoroughs or trenches in the ground to draw off the water are not good to save corn?"

"I see now the use of similes," said Socrates, "for there is nothing can instruct me so much as similes; for by them you have learned me to know the disadvantage of weeds among corn, as well as instructed me that drones are not always advantageous to bees."

You find embodied, in the foregoing discussion between these two ancient Grecians, Messrs. Editors, the same arguments we now apply to agriculture; and indeed we have not, I think, much to boast of over our fellow farmers who flourished over two thousand years ago. Without noticing their remarks upon harvest, the planting of trees, and culture of the vine, let us see some of their conclusions upon the subject of agriculture.

"It is surprising to me," said Socrates, "that seeing husbandry is so easy to learn, we find such a vast difference among the husbandmen; some we may observe to be very rich, while others have hardly bread to eat."

"To this Ischomachus replied: "It is not the want of knowledge which makes the poor husbandman, for both the rich and the poor may have the same knowledge in sowing or planting; or in the virtue of the soil, and what is best to plant upon it, and in the ordering of vines, or that ground is improved by fallowing and by manuring; but that which makes some farmers poor and some rich, is because the first are negligent and lazy, and the latter are industrious and thrifty. The poor farmers often lose the profit of a year by neglecting to make proper provision, either by fallowing, manuring, or sowing; nor has he any wine through his neglect in planting vines, or taking care to prune and dress those vines he has already; such a man has neither oil nor figs, for he neglects the care of his tree. It is for these causes, good Socrates, that you find one farmer richer than another; for the knowledge of farming, or anything else, is of no service or advantage if it is not industriously practiced. And so among generals of armies, it is likely that they all understand their business, but yet we perceive that some of them gain more honor and riches than others. Their case is like that of the husbandman; the industrious are always gainers, while the negligent always come off losers. So likewise we all know that manuring the ground is necessary; but some are negligent and never employ themselves about it, though it may as well be done by turning of cattle into it, as by other means. Some farmers use all their industry to gather together all the sorts of manures they can find; and others, though they might as well enrich their ground by the same means, yet never set their minds about it. The rain falls in hollow places, and remains there to the injury of the ground; and where this happens it shows the carelessness of the farmer; the weeds which rise on this occasion are witnesses of his negligence; for the diligent farmer always takes care to lay his ground in good order, and to clear it of weeds, and the very weeds he pulls up reward him for that work; for if he cast those weeds into a pit of water, and let them rot there, they will produce as good manure as dung itself. For there are no herbs or plants which will rot by lying in water, that will not make good manure for land, nor is there any sort of earth which will not make very rich manure by being laid a due time in a standing water, till it is fully impregnated with the virtue of the water.

We may remark further, that if the ground be too wet to sow upon, or too surly or sour to plant in, there is still a remedy for it; if it be wet, we may drain it by ditches or thoroughs; and if the ground

be stiff and sour, mix it with such things as are light and dry, or of a contrary nature to the soil. We find some husbandmen have regard to this, and some have no thought of it, and throw away those things which might prove to their profit. But suppose we were to know nothing of ground, or what it would bring forth, or can see neither tree nor plant upon it; nor have the opportunity of consulting, or learning, from some experienced husbandman, the worth of the ground; may we not satisfy ourselves at a very easy rate, by trying what it will bear or bring forth, in making a few experiments upon it? Is not this more easy, than to experience what a horse or man is? for in all that we can discover in our experiments upon soils, we are sure of the truth of what we see; there is no dissimulation; therefore the ground is the best master or director for the husbandman, in showing him what things are proper for it, and what are the contrary; and it gives us satisfactory proofs, who among the farmers are diligent and discerning, and who are not."

Such are some of the opinions in regard to agriculture held by the Athenians before the Christian era. To plough in the spring, and sow in the fall; to sow rich land liberally, and poor land thinly; to ditch wet land, and to alter the texture of tough land by adding light soil, and vice versa. To save all your manure; make compost of weeds; keep them from going to seed, and exterminate them generally. To plough under green crops for manure; and to give light and air to the soil by frequent stirring. To be industrious and thrifty, and to observe carefully what the soil brings forth, and what it lacks to make it bring forth.

We need but say to every farmer, that he must not neglect his work in any particular, nor refuse to use every means within his power to improve his land, and his knowledge of agriculture; let us at least try to equal if we cannot surpass the ancient Grecians.

*Rose Cottage, La., Dec.* 1856. H. H.

## CHINESE SUGAR CANE.—A CAUTION.

The notoriety given to this new plant has caused a large demand for the seed in almost every section of the country. As is always the case under such circumstances, speculators are abroad, and impositions will be practised upon the unsuspecting. The Prairie Farmer thus cautions its readers, and we can do ours no better service than by quoting his remarks:

"We deem it our duty to *caution* our friends, that in purchasing seed they should look well to what they buy. There are dealers who are honest men, and will sell pure seed or none. The demand for this seed—which is enormous, opens a field for deception. There are men unscrupulous enough to go in and win a harvest. We have received a specimen of seed closely resembling the Sugar Millet, called the Chocolate or Coffee seed. It is grown to a considerable extent in some of the Southern States, and its seed burned and used as a substitute for coffee and chocolate. We have never seen it growing, and unfortunately know nothing of its habits or character, except that it is said to resemble the broom corn when growing, and seeds in the same manner. We have some of the seed before us. It is about the *size* of the Sugar Millet, (sorgho sucre) but flatened and smooth, while the Sugar Millet is oval in shape, and villous. We have no doubt but this same chocolate seed will be offered for sale as millet. If any of our readers have had experience with this chocolate corn, we will be obliged if they will furnish us with its history and peculiarities. Meantime look well to your purchases."

The Editor of the Maine Farmer, who says many excellent things in his excellent paper, is remarkable for plain, straight forward talking. As a sample of his style we present the following, which will perhaps apply to other latitudes than that of Maine.

## HORSE RACING AT CATTLE SHOWS.

We publish in this number of the Farmer, remarks communicated by a friend on the subject of trotting horses, or perhaps it should be called horse-racing at our cattle shows. We have before expressed our opinion upon this matter. We hope the subject will be fully discussed, and public opinion made light upon it. That the trial of speed of horses at our shows, and the exhibition of skill on horseback by ladies, may, and in some instances has degenerated into a mere horse race, with all its attendant evils, cannot be denied. That a prudent and reasonable trial of speed and strength of our horses and cattle, as well as a decent decorous exhibition of skill of our ladies, in managing the horse while on its back, is useful, is equally true. But we wish to place this subject now before our farmers in another light.

How came these exhibitions introduced, and why are they conducted in the way and manner that they are? They were introduced and are thus conducted because of the selfish penuriousness of the great bulk of the farming community as it regards agricultural societies.

Now, this is a hard and severe accusation, and if it were not true we would not have made it, for we grieve to do it. But let the history of nearly all agricultural societies (in Maine at least) answer to it.

The legislature has very freely voted to each county, a sum of money, ($300) for the aid of agricultural societies, provided the people of the county raise a like sum; or in other words they will give as much money for that purpose as the Society will raise, not exceeding $300. Well, a Society is formed, and the good farmers flushed with new born zeal, and excited by the novelty of the thing, take hold strong, and the Society begins life strong, and for a year or two all goes on "swimmingly."

But soon the novelty wears away, and the excitement dies away, and the zeal becomes cool. Farmer A. says, I have worked so long to benefit the society for nothing; and farmer B. says, I ought to have had a premium on my steers, and it was given to Joe Lummux's, which were not half so good, and I'll not have any more to do with them.

And farmer C. says, I can't be always paying a tax, when I can go to the show and see all for nothing—and so he polls off. And farmer D. says, what's the use of my spending my time and labor? There's John Goahead, and Jim Public-spirit, and Sam Doitall, they'll take care and see that every thing is done in season; and so he holds back.

Well, the result is this: The Society begins to faint away; funds run short, and for the want of "*material aid*" it becomes almost a failure. The trustees and other really public-spirited and *useful* members come together,—a handful of them—and "*talk the thing over.*" And the first question, after ascertaining the true position, is, What shall we do for funds? How shall we raise the money necessary to carry on the operations of the society? Yankee ingenuity very soon adopted the plan of levying contributions upon all who wished to see the show, by enclosing the whole with a high fence, and charging an entrance fee at the gate.

Nor was this all. Acting upon that weakness of human nature which induces too many of mankind to pay more freely and liberally for witnessing sports than serious matters—for nonsense than manifestations of good common sense, a display of horse-*man*ship by ladies, and contests of speed in horses were introduced. And what is the result? More money to the treasury, and more folly in the community.

This is a true statement of facts. Had every farmer within the boundaries of each agricultural society considered the institution as established for his benefit—the welfare and prosperity of which it was his duty and privilege and pleasure to support, by a moderate but surely paid tax, there would not have been any resort to the practices now complained of. But they did not. Poverty has brought the evil into the society, and now, some who never paid a copper to support an agricultural society, except at the gate for the purpose of witnessing the practices named, loudly complain of them. We admit the evil, but how shall it be remedied? Will a return to the old system of membership, and annual assessment, and throwing the show open free to all, do it, or be attended with any better result than heretofore?

## CULTIVATION OF TOMATOES.

MESSRS. EDITORS: I wish to tell you my mode of growing tomatoes. I do not know that there is anything new about it, but it is not very common, and deserves to be much more general, since a dish of good early tomatoes is such a general favorite. My plants are always forwarded in a hot-bed, or in the green house, and grown in pots until they are about a foot or a foot and a half high, and are hardened off so as to bear turning out about the second week in May. I plant them about three feet apart in rows; when planted I drive down a few stakes six or eight feet apart, leaving them about four feet high the whole length of the rows, and nail a strip of wood all along on the top, and tie two or more pieces lower down the stakes, about a foot apart, so as to make a trellis something like a grape vine trellis.

Before planting I always dig the ground deep, and make it rich with manure. At the time of planting, I mix in the soil immediately about the roots, about a table-spoonful of Peruvian guano to each plant, which gives them an early start. When they have grown sufficiently long to tie to the trellis, I select two or three of the strongest shoots and tie them loosely to the trellis, cutting away all other small laterals which may grow on the main branches. I let these main branches grow until they have come in flower and set the first bunch of fruit; then I pinch out the top, one joint above the fruit, leaving the leaf entire. I then allow it to go on again until it has flowered, and set another bunch of fruit, when the top is pinched out one leaf above the bunch, the same as the first, and so on of all the rest, taking care to cut out all the laterals which may grow on the main branches down to the axles of the leaves, as often as they are produced, but leaving the leaves entire.

If any one will take this little extra trouble, he will be amply repaid and absolutely astonished at the immense clusters of fine large tomatoes he will have. If planted in a favorable situation, they will ripen at least as early as those grown any other way out of doors, and frequently three days or a week earlier. When ripe they will hang longer on the vines without decaying. The situation can hardly be too sunny. Deep, light, loamy soil suits them best. I always save my own seed. I began by saving a few of the roundest and smoothest tomatoes I could find for seed; now I have them, not flat or wrinkled all up, but as round as an orange, and as smooth and large as the largest Northern Spy apple.—*Cor. of Genesee Farmer.*

## THE RELATION OF THE PRACTICAL FARMER TO THE AGRICULTURAL JOURNAL.

MR. EDITOR:—In a former number of your periodical you urged the importance of farmers writing for agricultural journals, and was sorely grieved that the farmers of Pennsylvania, far advanced in practical agriculture, and capable as well as farmers of the other States, as they were, of writing, did, nevertheless refuse to write;—sensible men! They know their interests better. I have rejoiced that they were so intelligent as to leave the business to those who understood it better, and content themselves with reading. For, unless Pennsylvania Farmers can write for their journals better than the generality do, they had better desist. I do not think agricultural papers are the proper medium for interchange of sentiment among farmers. See how it is abused in relation to some papers. What I say would be better illustrated by a paper nearly filled with the miscellaneous communications of anonymous correspondents; but I do not wish to be, as it were, personal. Such communications are of no profit, and only interesting to the individual who makes them, and they are certainly no ornament to the paper, and no addition to its respectability. The place for such questions and communications should be the club room, which should be established in every considerable agricultural community.

It has been most justly remarked by C. Wren Hoskyns, Esq., (Morton's Cyclopedia, vol. 1, p. 5.) "what we want is a book of experiments."

When therefore practical farmers will conduct and collect systematic and detailed experiments, or write sound articles or essays upon any particular subject in agriculture, or facts of undenied importance to the science and its votaries, which latter can be blended betimes into an article by the editor to suit the occasion, let them forward these without delay for publication, and the readers of that Journal, will be edified and instructed.

I rejoice that your Journal, sir, is filled with substantial matter. Its essays and articles are interesting and instructive to every reader. It is owing either to your editorial ability in sifting and selecting, writing, and compiling, or to the sagacity and intelligence of the Pennsylvania Farmer.

I hope, sir, your Journal will continue unchanged unless by enlargement, that its change may consist not in the material but in the greater development of present practice.

European agricultural journals are constituted of essays and treatises, tried, experimented and proved. Thus are the Journals of Great Britain, where this noble science has hitherto been leaving us far in the wake, and where system and order, and experiment to support theory, as in every other art, are continually supporting, simplifying and exalting it.

G.

Pennsylvanian in New England.

For the Farm Journal.

## "THE PROFITS OF FARMING."

It was with considerable attention that I examined an article on this subject in the "Journal" for the present month; and while I can, to some extent, agree with the writer of it, I am rather inclined to doubt the usefulness of his examples. He gives for instance the cultivation of rye, and his calculation is based upon the price when it was far above its usual value. Suppose the rye had been in market *this year*, (which he says was sold from a farm in Essex County, Mass., at $1.50 per bushel,) and let us note the result:

| | | |
|---|---|---|
| 229½ | bushels rye, at 75 cents................ | $172 12 |
| 11 | tons straw, $10 per ton (not $16)....... | 110 00 |
| | | $282 12 |
| | Now deduct expenses as he gave them....... | 225 00 |
| | Leaving for profit................ | $ 57 12 |

Instead of, as he calculates, $294 75.

In each of the other instances the result would be the same. Where then do we find the boasted independence to be realized by agriculture? Surely not in publications of this kind, and more surely not in reality.

I do not wish to be understood as denying that *fortunes* even, may be realized by the cultivation of the soil,—far from it. "*Slow but sure,*" is the farmer's motto. In this, the writer of the article alluded to and myself perfectly agree; but in his manner of showing it, I differ from him. Are there no instances of the entire receipts and expenditures of some practical farmer, for two or three consecutive years, that can be made public? One in which cattle, pigs, and poultry, as well as *rye and straw* will figure; also apples, pears, &c. *By this means* can we arrive at the profits of farming in its true acceptation; and not by what one or two men may have done on one or two, or even eight or ten acres in one crop. You might as well say—Look at the profits of raising *turnips;* for if your figures are right, (2102 bushels to the acre is *a rather good* crop,) at 25 cents a bushel, J. T. Andrews might have realized over $500 from one acre.

I believe in holding out all the inducements possible to stimulate increased production; but when it comes to farming and profits combined, let us young farmers have results of a general, not a special character. If we all, by reading such articles, come to the conclusion that *rye*, (or any one thing,) is the most profitable, where, when we come to sell our crop, will the profit be?—all sellers; no buyers. Among your Correspondents, cannot some one furnish the required information?

But I will not trespass too far; I know your pages have some bounds to them, yet I must add a few words on Pigs. The article from the "Rural New Yorker," by "H. T. B.," is very much to the point; he deserves the thanks of the *swinish* community. Poor, abused pigs; you have another defender, no less than myself. My opinion is, that hogs will pay for themselves, if *well kept*, long before their "*remains*" come to be disposed of. Yet there are some farmers who do not know it. I have two "round and fat" little porkers, who have cost but little for feed; but their commodious pen was made the receptable of all the weeds (*before they went to seed*) from the garden, the leaves raked up this fall under the trees, and the refuse corn-fodder from feeding two cows: the consequence is, a heap of the very best manure, sufficient to raise a good many bushels of corn; and as I intend to keep an accurate *account* of it, I may let you *know*, as part of a farmer's profit, what two pigs will do.

There are two or three other *good things* in the Journal this month, which I should like to say a word or two about; but I fear you *are* already—and your readers *will be*—tired of my ramblings for this time.

KIRKWOOD.

*Chester County*, 1st month 10th, 1857.

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## EXPERIMENTS WITH GUANO.

Mr. H. Hawks, of Deerfield, communicates to the *Greenfield Courier* the following result of three experiments with guano, from which he arrives at the conclusion that guano is not so good for heavy soil as light and sandy, and that it is more beneficial for broom corn than Indian corn:—

No. 1. Mixed 150 pounds of guano with twice its bulk of earth, sowed one half the mixture broad cast on ½ acre greensward land, clay soil, and plowed it under; put the remainder in the hill and covered it before dropping the corn; planted the 22d of May. Result—a light growth and no sound corn.

No. 2. Mixed guano as in No. 1, put in the hill about 160 lbs. per acre, common loam soil; planted 23d of May. Result—a large growth of stalks, about as much soft corn as sound, but ears enough for 60 bushels per acre.

No. 3. Plowed 26 rods of light sandy land, planted six rows with guano in the hill, and six rows with ashes in the hill, the same worth of each, using one lb. of guano to the square rod; planted the 26th of May with broom corn; harvested the last week in Sept., and each six rows was kept separate. Result six rows planted with guano, 37 lbs. of brush; six rows planted with ashes, 27 lbs.; in favor of guano 10 lbs.; at 8 cts per lb. would be 80 cts.; or making a difference of 123 lbs. per acre, amounting in cash to $9,84 in favor of guano.

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## DEGENERATION OF VARIETIES OF THE PEAR TREE.

Mr. De Jonghe, of Brussels, has been writing lately much about his favorite pear-tree, and comes to the following conclusions respecting the degeneration of varieties so much talked about. He says:—

"From what has been already stated, it will be understood that varieties cultivated in climates analogous to that in which they were raised, will, in general, retain their characters, provided the trees are planted in a suitable soil, and treated in a proper manner.

"If the causes of degeneration are to be ascertained, they may be sought and found:—

"1. In the use of improper stocks, which have no affinity with the graft.

"2. In the use of grafts badly selected, either taken from the lower part of very young trees, or from others weak and affected with various diseases.

"3. In the use of grafts grown in an artificial manner.

"4. In a mode of cultivation unsuited to the nature of the variety.

"5. In planting a variety in a soil which is either too poor and too shallow, or too heavy, cold and moist.

"6. In want of attention, in consequence of ignorance of the first elements of a rational mode of culture.

"With respect to the first three causes, we have touched upon the principal points connected with them on several occasions in previous articles, and it would be superfluous to revert to them. Concerning the fourth, it is evident to every practical man that a normal degree of vigor, and, consequently, a good crop of perfect fruit, can only be obtained by allowing the tree to take that form which is most in conformity with its mode of vegetation. If that form is constantly restricted, by premature pinching, or too severe pruning, the tree bears a few small, cracked, gritty fruits, becomes barren, and is eventually destroyed. This is not owing to degeneration, but to a want of skill on the part of the cultivator. Nor can we attribute the cause to degeneration, when bad fruit is gathered from a tree planted in a soil which is too strong, compact, and moist. It is not reasonable to seek from the soil that which it cannot give.

We have seen a plantation of more than 100 pear-trees, comprising about 80 of the best varieties of pears. These trees were confided to one who is known to be an able cultivator. They were all trained in the same form—that of a dwarf pyramid—upon the free stock, and upon the quince. On the 15th of June, 1856, the 100 trees had not 200 pears on them. The premature pinching, performed, in a season different from the ordinary run, had caused a disordered vegetation, from which, of course, the trees suffered, and, in consequence of which they were not able to set their fruit. Moreover, the ground where the trees were planted was covered with a rather thick layer of horse dung, and this preventing the action of the air and sun upon the soil which covered the roots, the trees were unable to profit by the beneficial effects of the solar rays upon the ascending sap. If these trees remain weakly and barren, is that result to be attributed to the circumstance of the varieties treated in this way having reached the period of degeneration?

That fruit-trees, he concludes, are disposed to degenerate in consequence of the time they have been in existence, we do not believe.—*Horticulturist.*

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For the Farm Journal.

## PROTECTION AGAINST MICE.

Messrs. Editors:—I find in the Journal for December, page 374, an inquiry—"What shall be done with the Mice?" I am unable to answer, unless we turn dentists and extract their teeth, which would be an unprofitable task. The writer says, "We have had remedies by the dozen, but they all had reference to protection above ground." Now let me propose a single and simple remedy, which will be alike effectual above and below ground. Take a hoe or shovel and remove the soil immediately around the trunk of the tree, till the main roots are uncovered. The cavity should be hollow or dish-shaped, so that it may contain water. Fill this cavity with water, until the ground surrounding the tree is throughly saturated. When cold weather arrives the saturated ground will be frozen hard, and consequently, the mice will be unable to nestle there. To keep it in a frozen condition, snow should be placed around each tree. If dry, the snow should be tramped until solid. If very dry and light, it would not be amiss to pour a portion of water over it, to make it more solid.

If the earth can be thoroughly frozen around fruit trees, and kept in that condition until late in the spring, it will be attended with a two-fold advantage: first, it will secure them from the mice; and second, it will serve to retard their blossoming until the frosts of spring are past. Thus, if the mice are not sufficiently numerous or destructive to warrant the trouble of preparing the trees as above, the labor and expense will be more than repaid by the certainty of the next year's crop of fruit.

HOWARD WILLIAMSON.

*Willistown, Chester County, Pa.*

A friend at our elbow, suggests the following plan to get rid of these pests. Place small boxes, with holes near the bottom just large enough to admit a mouse readily. In this box place some poisoned grain—wheat or corn. When the little scamps are so sorely pinched with hunger as to relish the bark of the tree, they will readily eat the grain. The box should be so arranged as to prevent fowls from getting at the poisoned grain.

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For the Farm Journal.

## RYE INSECT.

I wrote and sent an article for your valuable Journal more than a year ago on this subject—it must have been miscarried, or mislaid, for it never appeared. Finding by observation that the insect is more numerous this than last year, I therefore will trouble you with this hasty sketch.

I have seen the insect only in its larvæ state. It is a pale-yellow little worm, about an eighth of an inch in length, and found almost invariably between the second and third joint in the straw of the rye, (enclosed you will find a few joints which I picked out of the rye tailings a few days ago.) I have seen as high as ten and fifteen in a straw two inches long. The rye stalk is so much damaged by the formation of the cells in which the little intruders are lodged that the head does not fill, and if grains are found at all they are very small, shriveled, and imperfect, and in many cases the heads are entirely empty; and very often the stalk is broken down flat on the ground by the wind, from the reason that the straw becomes very brittle while in a growing condition in the places where the insect is lodged.

The insects were very numerous last year, but I think they are more than quadrupled this year; and who knows but what it may destroy our whole rye crop ere many years if it continues to multiply as it has for the last year, and we may be in the same fix as we now are with respect to the best varieties of beardless wheat. The insect may be nothing new to entomologists. I merely drop these few suggestions for purpose of starting one from his slumber more conversant with insects than myself.

J. S. KELLER.

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## AMALGAMATION OF POTATOES.

A pamphlet has been published in Scotland, by a farmer named Craig, on the potato disease and its cure. By planting three different kinds of potatoes together last year, very favorable results were achieved. Two out of the three varieties planted had been, on previous occasions, affected by the disease; all were found to be perfectly healthy and sound when dug, and experience has shown that they kept well during the winter. He believes that the potato disease may be safely attributed to the violation of one of the laws of nature, and that the generation of the malady is occasioned by the plants being too closely bred, or, in other words, by "sub-breeding," *i. e.*, "breeding in and in."

The lesson we derive from this is, that two or more varieties of seed potatoes should be planted in each hill.

What say our potato philosophers to this? If the argument or objection applies to potatoes, why not to turnips and to all other plants? and why not to grain, grass, fruits, and so forth? What say our farmers? shall the seed be mixed? Here is an important principle mooted—who shall solve it?

It is probable that some plants may dwindle away, degenerate, and finally "run out," and that they require *crossing*—but why not cross them on fresh seed of their own sort or variety? as among pure-blooded horses and cattle? In this way the same *quality* may be kept up forever. Plant potatoes on rich, new, dry ground, upon underdrained land, where they shall not suffer from wet or drought, and we believe they will be free from dsicease. Plant them in old, low, cold, wet, clayey soil, with no matter how much manure, and you may count on poor, diseased, watery tubers.

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For the Farm Journal.

We considered it our duty to devote a few hours to the solicitation of names for the Journal. We therefore went out among our neighbors, and happily succeeded in getting several names in addition to our own.

The majority of farmers decline taking an agricultural paper, because it teaches nothing, they say, that is adapted to their practice, or that is graduated to their scale; because, in fact, it is not oral and delivered by word of mouth, but has been subject to the operation of the printing press.

Let us ask those gentlemen, if they were disposed to have their son learn a trade, or to become a first-rate farmer—would they select a teacher of circumscribed knowledge, who was a "botch" mechanic, or a farmer who was unskillful and unthrifty; or would they select one who was familiar with all the improvements of the age, and whose thrift in business would be a guarantee that he managed it in a proper manner?

The "Journal" is to the circumscribed farmer, what the good teacher would be to the boy—an instructor in the improvements and best practices in his business; written by these men who have made and adopted them; and for the particular benefit of those who have limited means, or cannot go abroad for the information they desire. The modern improvements in farming go to economize labor, or rather to render labor more productive and profitable, and to keep up the fertility of the soil; which are two objects of as much or of more importance to the farmer of small means, than it is to one of more extended means.

GEO. W. BRETZ.

*Newport*, January 2d, 1857.

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## SIXTH ANNUAL MEETING OF THE PENNA. STATE AGRICULTURAL SOCIETY.

*Harrisburg*, Tuesday, Jan. 20, 1857.

The Members of the Penna. State Agricultural Society met this day, (the third Tuesday of January) in the Hall of the House of Representatives, James Gowen, Esq., President of the Society not being present, the meeting was organized on motion of H. N. McAllister calling John Murdoch, jr., to the Chair.

The Minutes of the last Meeting were read and approved.

The Hon. A. O. Hiester, Chairman of the Committee on Field Crops, made the following report, which, on motion was adopted:

### FIELD CROPS.

The Committee on Field Crops respectfully report—That as heretofore, there are but few competitors for the Premiums offered by the Society. At the recommendation of two successive Committees the list was very considerably increased and the premiums enlarged. In casting about for a reason, for the apparent apathy, we think we find it in the almost universal want of exact system in keeping the accounts and memoranda of the daily work upon the farm, and want of conveniences for making the experiments with the exactness required (and properly so) by the Society.

They flatter themselves they see an improvement in this respect opening up before them. The Agricultural Schools now in progress of erection in several of the adjoining States, and the Farmers' High School of our own, which it is the design of the Trustees shall be of the first class, will do much

toward fostering a habit in early life of making exact observations upon growing crops, and correctness in keeping of memoranda.

The mass of very important information contained in four or five hundred communications to the Agricultural department at Washington, by some of the most intelligent and observing men of the nation, both practical and scientific, with regard to the culture, the growth, and yield of crops, and which are being distributed broad-cast over the land in the reports of the Patent Office, are doing much to extend a spirit of inquiry and experiment; and the distribution of sixty thousand packages per annum of new seeds, beside cuttings and roots, gathered from every portion of the globe and distributed over our land, must all add to the interest and value of our agricultural productions, and foster a taste for close observation as to the results.

There are but two entries for Premiums: Jonathan F. Garrard, of Allegheny County, Penna., for five acres of Wheat, and one half an acre of Sugar Beets.

The Committee submit, as part of their report, the statement of Mr. Garrard as to the mode of cultivation and the yield per acre.

The statement and certificates all accord in all respects with the rules of the Society.

The Committee award to Jonathan F. Garrard, of Allegheny County, a premium for crop of Wheat of $20 00.

For the one half acre of Sugar Beets, a premium of $10 00.

A. O. HIESTER,
J. B. RUTHERFORD,
SAMUEL GILLILAND,
WM. MARTIN, SR.
} *Committee.*

### REPORT ON WHEAT CROP.

*Sharpsburg*, Jan. 3d, 1857.

*To the Hon. Committee on Field Crops:*

SIRS:—In compliance with the request of the Penna. State Agricultural Society, I herewith produce a statement of the mode of cultivation and the kind of seed used in the foregoing five acres of Wheat.

The land on which it grew is naturally poor, and before it came into my possession, six years ago, I have known two crops out of three to be an entire failure, the weeds being suffered to grow up, thereby literally filling the ground with seeds. I broke up this land deep and thoroughly, planted it with corn, next spring with oats, and sowed it down with clover and timothy, pastured it three years. The summer of '55 being very wet, the weeds grew in abundance, and when fully in blossom, I thought if I could plough them under, they would prove a good fertilizer. It was principally *Smart Weed*, very thick on the ground, and from four to five feet high. To plough such a mass of weeds under was no small task. I selected one of the largest iron ploughs with a heavy log chain attached to bend down the weeds, but this proved insufficient. The bulk was too great to be buried by this method. I then thought I would try Messrs. Hall & Speer's *Deep Tiller & Surface Plough*, which I had been using the previous fall to break up a piece of very hard, sterile ground, which with four horses I managed to break up fourteen inches deep. With this plough and three horses abreast, I found myself adequate to the task. The small surface plough being two-thirds as wide as the main plough, cutting the sod one or two inches deep rolled it over with the weeds on to the edge of the furrow-shire, the main plough following six inches deep, pulverized the ground completely, burying all vegetable matter, I am under the impression that no other kind of a plough would have succeeded as well, and, therefore, recommend it as well adapted for turning under clover or any other vegetable matter, as well as for deep tillage. After harrowing the ground once in a place, I drilled on six pecks of *White Etrurian Wheat*, commonly called *blue stem.*

It was thought by many who saw the crop growing, there would be forty bushels per acre, but the season was unfavorable, especially, on that dry, sandy soil. Quantity grown was 133¼ bushels.

Respectfully, your obedient &c.,
JONATHAN F. GARRARD.

*Allegheny County, ss.*

Z. Patterson, being duly sworn, says he is a surveyor, that he surveyed with chain and compass, the land on which J. F. Garrard raised a crop of Wheat the past season, and the quantity of land is Five acres and no more.

Z. PATTERSON,
Surveyor.

Sworn to before me this 24th day of Dec., 1856.

J. G. COMSTOCK,
Justice of the Peace.

*Allegheny County, ss.*

Jonathan F. Garrard, being duly sworn, says that he raised a crop of Wheat the past season upon the said land surveyed by Z. Patterson, and that the quantity of grain raised thereon, was one hundred and thirty-three and one fourth bushels, measured in a sealed half-bushel, and that he was assisted in harvesting and measuring said crop by Timothy Reilly, and that the statement annexed, subscribed by this deponent, as to manner of cultivation, &c., is in all respects true to the best of his knowledge and belief, and that the sample of the grain exhibited is a fair average sample of the whole crop.

JONA. F. GARRARD.

Sworn to before me this 25th day of Dec., 1856.

Z. PATTERSON,
Justice of the Peace.

*Allegheny County*, *ss.*

Timothy Reilly, being duly sworn, says that he assisted J. F. Garrard in harvesting, getting out and measuring his crop of Wheat referred to in the affidavit, that the quantity of grain was one hundred and thirty-three and one-fourth bushels, as stated in the affidavit of J. F. Garrard.

TIMOTHY REILLY.

Sworn to before me this 23d day of Dec., 1856.

Z. PATTERSON,
Justice of the Peace.

### REPORT ON BEET CROP.

*Sharpsburg*, Jan'y 3d. 1857.

DEAR SIR: The following is the mode I pursued in cultivating the foregoing crop of Sugar Beet. After breaking up the ground deep I harrowed it well, so as to thoroughly pulverize it. I then drilled up the land about thirty inches from centre to centre, and put in at the rate of forty cart-loads of good barn yard manure per acre and covered it. I then flattened down the drills with an iron rake, made a small crease with the corner of a hoe on the middle of each drill, into which I dropped the seed, at the rate of three pounds per acre, then covered it with the rake.

After culture was performed with cultivator and hand hoe, thinning out the plants from eight to ten inches apart, keeping the ground as level as possible. It does not answer to throw up earth around the roots with the plow as we do for potatoes. The kind of seed used was the Silician, and White French Sugar Beet. The Silician or Red Striped Beet did best with me, although I do not know that they contain as large a quantity of juice as the latter. Quantity grown was 168 bushels.

Respectfully yours, &c.,
JONATHAN F. GARRARD.

*Allegheny County*, *ss.*

Z. Patterson being duly sworn says he is a surveyor, that he surveyed with chain and compass, the land on which Jon. F. Garrard raised a crop of Sugar Beet the past season, and the quantity of land is one half acre and no more.

Z. PATTERSON, *Surveyor.*

Sworn to before me this 24th day of Dec., 1856.

J. G. COMSTOCK,
Justice of the Peace.

*Allegheny County*, *ss.*

Jon. F. Garrard being duly sworn, says that he raised a crop of Sugar Beet the past season upon the land surveyed by Z. Patterson, and that the quantity of Sugar Beet raised thereon was one hundred and sixty-eight bushels, measured in a sealed half bushel after the tops were taken off and the beets dressed, and that he was assisted in taking up and measuring said crop by Timothy Reilly, and that the statement annexed, subscribed by this deponent as to the manner of cultivation &c., is in all respects true to the best of his knowledge and belief, and that a sample of said beet was exhibited at the late fair held at Pittsburg.

JONATHAN F. GARRARD.

Sworn to before me this 23d day of Dec., 1856.

Z. PATTERSON,
Justice of the Peace.

*Allegheny County*, *ss.*

Timothy Reilly being duly sworn, says he assisted J. F. Garrard in taking up and measuring his crop of Sugar Beet referred to in the affidavit; that the quantity of Sugar Beet was one hundred and sixty-eight bushels, as stated in the affidavit of J. F. Garrard.

TIMOTHY REILLY.

Sworn to before me, this 23d day of Dec. 1857.

Z. PATTERSON.
Justice of the Peace.

Robert C. Walker, Recording Secretary of the Society, then made the following report which on motion was adopted.

*To the Members of the Pennsylvania State Agricultural Society:*

The Executive Committee for the past year have held their regular quarterly meetings in accordance with the Constitution, and have discharged those duties which devolved upon them in their official capacity. At these meetings the various subjects of business appertaining to the Society were duly discussed, and the execution of the work allotted to the proper officers and sub-committees. At their first quarterly meeting a committee of five was appointed to receive proposals and fix the place for the sixth annual exhibition, who upon learning that the citizens of Pittsburg were desirous of securing the State Fair at that place, upon their paying a liberal contribution to the Society, repaired thither and on the 25th of April last they received the guarantee of five responsible citizens of Pittsburg, that the sum of two thousand dollars would be duly paid to the treasurer of the State Society upon the condition of their holding the annual exhibition there. The Committee deeming the guarantee a proper security for the payment of the money, determined upon and gave notice that the sixth annual exhibition of the Pennsylvania State Agricultural Society would be held at Pittsburg, at the time previously agreed upon, namely, on the 30th of September, and

the 1st, 2d, and 3d days of October. The Committee having the subject in charge, viewed the grounds of the Allegheny County Agricultural Society, and an agreement with the officers thereof was entered into for the use of said grounds for the annual fair. At the next quarterly meeting of the Executive Committee, held on the 15th day of July, the Committee on the location of the fair, made report of their proceedings which was duly accepted. A committee of three was then appointed to invite a suitable person to deliver the annual address. At this meeting the secretary of the Society reported that he had been subpœned by an attorney of the society, as a witness in the case of Thomas Curtis against the Pennsylvania State Agricultural Society, and that he had appeared before the district court of Philadelphia, on the 23d day of May preceding, and was present until the close of the trial, and that the case had been decided by a verdict from a jury in favor of the Society. This case was an action where suit was brought against the Society by an exhibitor, for damages sustained from rain while exhibiting his goods in a building of the Society during the State Fair at Harrisburg, in 1855.

At this meeting a Committee of Arrangements for the Exhibition at Pittsburg was appointed, and the premium list for the same adopted, of which fifteen hundred copies were ordered to be printed in pamphlet form. Soon after their appointment, the Committee of Arrangements convened upon the grounds of the Allegheny County Agricultural Society, and determined upon the erection of the additional buildings and improvements, that would be necessary to accommodate the purposes of the State Exhibition. At an early day the workmen and laborers were busily engaged in enlarging and embellishing the grounds, and in seasonable time the whole was completed, and everything in readiness for the approaching Fair. The Committee of Arrangements, composed as it was—a majority of whom being members of the Allegheny County Agricultural Society, and living in the immediate vicinity—were probably better qualified to discharge their duty to the State Society than persons living at a greater distance, although members of the State institution.

All the arrangements were made under the supervision of the Committee, and all contracts that were susceptible of specification were allotted to the lowest bidder after proposals had been duly invited. Every care was taken by the Committee, not only to avoid extravagance, but to pursue a course of economy in all things not inconsistent with the character and dignity of the Society.

The expenses of preparation for every Annual Exhibition are necessarily heavy, and to the casual observer more than might be warranted by a hasty glance at the conveniences and improvements made. As long as the Society changes its location from year to year, these necessary outlays will naturally follow. It is questionable whether the corresponding benefits arising from a change of location, pecuniarily considered, will be equal to the outlay incident to such change.

On Saturday night preceding the late State Fair, nearly all the arrangements were completed, many of the employees discharged, and some articles for exhibition were brought within the enclosure—expectation was on tip-toe for an auspicious opening of the approaching week—but Monday morning came and with it a drenching rain, which had set in the night before, and which by morning had become general for a hundred miles around. Thus the week was ushered in, and the rain came down without interruption until after midnight on Tuesday. Wednesday throughout was very cold and unpleasant, and this being the second day of the Exhibition, only a few hundred people with stout hearts and robust constitutions ventured upon the field.

Disappointed expectations were to be seen upon every face; and those of the committee who had looked forward to this "gala" week for a realization of those hopes which would be a recompense for the anxiety and labor they had endured on duty, looked pitiable indeed. At this time of the week the prospect for a successful fair was almost a forlorn hope, and as but two days yet remained, it would have been unreasonable to expect as many visitors under the most favorable circumstances, as would pay the premiums. However the two remaining days of the Exhibition were pleasant, and the fine weather brought out a large concourse of people, still the time was too short to make up for the many that had been kept away by the bad weather of the previous days. From the large amount of premiums offered, and the many inducements held out to exhibitors, and from the general publicity that was given of the Exhibition throughout the State, it was confidently expected that it would equal any of its predecessors. Whatever want of success there may have been may be attributable altogether to bad weather. As it was, there was a large number of fine horses and cattle on exhibition, together with one of the largest displays of fine sheep and swine ever brought together in the State. The machinery and manufactures of Pittsburg were in great variety, and did much credit to the enterprising citizens of that famed community. The article of Pittsburg plows was a striking feature of the Exhibition, and contributed to the general interest by their immense numbers and the diversity of their make and pattern.

The plowing and harrowing match which came off at the appointed hour, attracted great attention from a large and respectable number of spectators.

There was a fine exhibition of the speed and training of horses upon a large and commodious ring prepared for the purpose. As to the number of entries, and articles and animals on exhibition, they would compare favorably with any of our former displays. On Friday afternoon the Hon. George W. Woodward, who had been invited for the purpose, delivered the annual address in the presence of a large concourse of ladies and gentlemen. At the close of the address, on motion of William Waugh, it was resolved that the thanks of the Society be tendered to the Hon. George W. Woodward for his able and practical address, and that one thousand copies be printed for the use of the Society.

The awards of the judges were then read, and the usual number of copies ordered to be printed, when the Sixth Annual Exhibition was duly declared closed.

A large amount of silver plate as offered by the premium list, was awarded by the judges at this exhibition, together with over one hundred and fifty silver and bronze medals, and some hundred and fifty diplomas. The amount of money awarded and paid for premiums as shown by the report of the Treasurer, is quite large, and which has been liberally distributed to the farmers and others in various sections of our State. The managers have endeavored to confine the workings of the Society to its strict object and design, and with a dignified regard for the legitimate pursuits of a State institution, which has been incorporated to "foster and improve agriculture, horticulture, and the domestic and household arts;" they have thus far kept it aloof from the many catch-penny performances that are of late too frequently resorted to by societies of a similar kind for the purposes of making money. At the forming of the programme for each succeeding exhibition, the subject of lady equestrianism, and other performances equally foreign to the promotion of agriculture have been strongly urged as a part of the proceedings and as often properly rejected. Thus it is a source of congratulation, that while the Society has been kept in the path of its proper duty, it has never failed to distribute annually a large amount of valuable premiums for laudable and legitimate purposes. The third volume of Transactions as authorized by a resolution of the senate has been duly published under the superintendence of the Secretary. This volume embraces all the reports of the County Agricultural Societies received for the year, together with the Transactions of this Society and other interesting matter.

The first Annual Report of the President of the Board of Trustees of the Farmers' High School of Pennsylvania, embracing the report of the treasurer thereof, has been duly received from the Hon. Frederick Watts and is herewith presented.

*Carlisle*, Dec. 3, 1856.

*To James Gowen, Esq.,*
President of State Agricultural Society.

By the act which incorporates the "Farmers' High School of Pennsylvania," it is made the duty of the Board of Trustees "to make out a full and detailed account of the operations of the Institution for the preceding year and an account of its receipts and expenditures, and report the same to the State Agricultural Society."

The operations of the institution have been to accept the gratuitous conveyance of Gen. Irvine of 200 acres of land in Centre county, with a lease of 200 acres adjoining, and the privilege of purchasing the same at any time within five years at $60 an acre. This ground has been laid out with a view to the erection of permanent buildings; hedges and orchards have been planted, a large barn, farm-house and cisterns have been erected, a contract has been entered into for the erection of a school edifice and the work is progressing. I send to you herewith printed plans and specifications of the school edifice and of the barn, the former of which has been allotted to Turner & Natcher for fifty-five thousand dollars and the latter to Bernard M'Lean at three thousand five hundred dollars. You have herewith also a detailed account of all the receipts and expenditures of the Institution since its organization until the present date.

I have the honor to be your obedient servant,

FREDERICK WATTS,
President of Farmers' High School of Pennsylvania.

E. C. HUMES, *Treasurer, in acct. with Farmer's High School Penna.*

DR.

| | | | | |
|---|---|---|---|---|
| 1856. | | To Sundry receipts as follow, viz., | | |
| April | 1 | Amount advanced by H. N. McAllister, being proceeds of $1000 note at 60 days, | | 989 17 |
| " | 2 | Amount advanced by same. | | 500 00 |
| " | 19 | State Agricultural Society order, (James Gowen, Pres.) on G. H. Bucher, Treas'r for which the following was taken in payment by Hon. F. Watts, as per his letter dated May 10th, 1856, viz. | | |
| | | 4 bonds Carlisle Bor. $1000 each, | $4000 00 | |
| | | 1 " Hazleton Coal Co. $500 00 | | |
| | | 1 " " " 1500 00 | 2000 00 | |
| | | 4 " Harrisburg, Lancaster and Mt. Joy Rail road Co., $1000 each, at $93, proceeds being | 3720 00 | |
| | | Cash, per Judge C. R. Watts, | 280 00 | 10,000 |
| Oct. | 31 | Cash received from H. N. McAllister, on account of Centre Co. subscription, | 262 50 | |
| | | Cash received of Wm. M. Mundy on same, | 1920 25 | |
| Nov. | 4 | Cash received of F. S. Wilson, on same, | 25 00 | |
| " | 7 | Cash received of Moses Thompson, on same, | 574 75 | |
| | | Cash received of H. N. McAllister, on same, | 238 83 | |
| | | Cash received of Irvin McAllister, & Curtin, Guarrantors of Centre Co. subscription, | 1978 67 | |
| | | 1st instalment Centre Co subscription, | | 5000 00 |
| " | 8 | Cash received of Hon. F. Watts, 6 months interest on three $1000 Carlisle Borough bonds, | | 90 00 |
| | | | | $16,579 17 |
| Nov. | 8 | To balance in hands of Treasurer, including three $1000 Carlisle Borough bonds held by Judge Watts. | | $5043 41 |

CR.

| | | | | |
|---|---|---|---|---|
| 1856. | | By Sundry payments as follow, as per orders drawn by Building Committee, agreeably to Resolution of Jan. 4th, 1856, viz., | | |
| April | 1 | Thompson McCoy & Co. | 1 | 80 00 |
| | | Bernard McClain, | 2 | 100 00 |
| " | 5 | James Antis, | 3 | 550 [illegible] |
| " | 26 | Bernard McClain, | 4 | 500 00 |
| May | 2 | James Antis, | 5 | 500 00 |
| " | 10 | James Antis, | 6 | 43 31 |
| " | 23 | H. N. McAllister, (loan) | 6½ | 500 00 |
| | | Wm. G. Warring, | 7 | 45 00 |
| | | " " | 8 | 44 51 |
| | | " " | 9 | 162 65 |
| | | John Herman, | 10 | 78 94 |
| | | G. A. Jacobs, | 11 | 203 12 |
| " | 24 | Bernard McClain, | 12 | 50 00 |
| June | 1 | " " | 13 | 1000 00 |
| " | 3 | H. N. McAllister, (loan) | 14 | 1000 00 |
| " | 9 | Irvin, McCoy & Co., | 14½ | 251 83 |
| " | 26 | John Herman, | 15 | 25 00 |
| " | 30 | Bernard McClain, | 16 | 400 00 |
| July | 4 | Hezekiah Blair | 17 | 4 00 |
| | | Anthony Gallaher, | 17 | 8 62 |
| " | 14 | Bernard McClain, | 18 | 200 00 |
| " | " | John Herman, | 19 | 25 00 |
| " | 22 | " " | 21 | 93 37 |
| " | 31 | Turner & Natcher, | 22 | 500 00 |
| Aug. | 4 | Bernard McClain, | 23 | 300 00 |
| " | 27 | John Herman, for H. | 24 | 29 00 |
| | | John A. Miskey, | 25 | 21 00 |
| " | 28 | David Ralston, | 26 | 3 00 |
| " | 30 | Daniel Sowers, | 27 | 27 56 |
| | | John Quinn, | 28 | 22 10 |
| | | Kabello & Bayard, | 29 | 5 50 |
| | | Hez'h Blair, (for Quinn) | 30 | 8 00 |
| | | " " (for Harman) | 31 | 11 00 |
| Sept. | 13 | Turner & Natcher, | 32 | 400 00 |
| " | 15 | Bernard McClain, | 33 | 200 00 |
| | | " " | 34 | 300 00 |
| " | 16 | Joseph Scott, | 35 | 16 50 |
| | | And'w Whitehill, | 36 | 9 75 |
| " | 24 | Henry Gilbert, | 37 | 36 26 |
| | | Turner & Natcher, | 38 | 100 00 |
| | | " " | 39 | 50 00 |
| " | 26 | C. W. Lambert, | 40 | 20 00 |
| " | 27 | John Herman, (Butterf.) | 41 | 20 00 |
| | | Nicholas Hillibish, | 42 | 79 39 |
| Oct | 16 | John Herman, | 43 | 109 00 |
| " | 17 | Bernard McClain, | 44 | 100 00 |
| | | L. Bathurst, | 45 | 3 00 |
| | | Bernard McClain, | 46 | 50 00 |
| | | " " | 47 | 150 00 |
| | | John Quinn, | 48 | 28 12 |
| | | Bond Valentine, | 49 | 108 00 |
| | | John Rowen, | 50 | 35 25 |
| " | 18 | James Welch, | 51 | 47 00 |
| " | 22 | Foresman Wilson, | 52 | 12 50 |
| " | 25 | Bernard McClain, | 53 | 142 75 |
| | | " " | 54 | 100 00 |
| " | 27 | C. W. Lambert, | 55 | 20 00 |
| " | 29 | William Wagner, | 56 | 15 00 |
| | | Geo. B. Weaver, | 57 | 1 50 |
| " | 30 | John Parsons, | 58 | 14 25 |
| | | Turner & Natcher, | 59 | 500 00 |
| " | 31 | " " | 60 | 700 00 |
| | | " " | 61 | 565 00 |
| | | Bernard McClain, | 62 | 15 00 |
| Nov. | 1 | " " | 63 | 15 00 |
| " | 4 | J. T. Johnston, | 64 | 18 00 |
| " | 5 | E. C Humes & Bro., | 65 | 6 75 |
| " | 7 | Thompson McCoy & Co., | 66 | 232 95 |
| | | Bernard McClain, | 67 | 100 00 |
| | | " " | 68 | 70 41 |
| " | 8 | " " | 69 | 300 00 |
| | | R. Lovett, Jr., | 70 | 10 25 |
| | | F. Gardner. | 71 | 18 60 |
| | | E. Beatty, | 72 | 23 00 |
| | | Balance. | | 5,043 41 |
| | | | | $16,579 17 |

TO THE TRUSTEES OF THE FARMER'S HIGH SCHOOL OF PENNSYLVANIA:

Edward C. Humes, Treasurer, most respectfully reports the foregoing account, showing his receipts and disbursements.

The $989 17 is the proceeds of a thousand dollar note at sixty days, belonging to H. N. McAllister, discounted for the use of the Farmers' High School, which advance was refunded at the maturity of the note, 3d June 1856, as per voucher 14. The $500 advanced by H. N. McAllister was repaid 23d May, 1856, as per voucher 6½.

These advances were required to meet payments due on contracts for lumber, to which the money was applied as per vouchers 1, 2, 3, and 4.

The $10,000 is the appropriation made by the Pennylvania State Agricultural Society, received in bonds &c., as stated in the account. The two bonds of the Hazleton Coal Company, the four bonds of the Harrisburg, Lancaster and Mt. Joy Rail Road Company, and one of the Carlisle Borough bonds were by Judge Watts negotiated at the same rate at at which they had been received. The remaining three Carlisle Borough bonds still remain in the hands of Judge Watts unconverted.

The $5000 is the first instalment of the subscription by the citizens of Centre County to the Farmers' High School, made on condition the institution should be located on the land donated by General Irvin, due 1st October, 1856. The remaining instalment of $5000 will fall due 1st May, 1857.

The orders are either on account of specific contracts, or are accompanied by bills showing specific items. The vouchers will of course be retained until the account is audited.

All which is respectfully submitted,

EDWARD C. HUMES,
*Treas. F. H. S., Pa.*

*Bellefonte, Nov. 8th*, 1856.

The Treasurer of the Society being prevented from getting to the meeting on account of the impassable state of the roads was not present to make his annual report: it was announced that at a meeting of the Executive committee held in the morning, a committee had been appointed to audit his account with instructions to report at the next meeting of Executive Committee.

The nomination of officers being next in order, Robt. H. Kern nominated James Gowen of Mount Airy; the Secretary then said he had a letter from Mr. Gowen declining a re-election which being read his name was withdrawn—the latter is as follows:

*Mount Airy*, January 16th, 1857.

Dear Sir.—I regret to inform you that I find myself so indisposed by the severe cold that for some days past has annoyed me, that I am compelled to relinquish all thoughts of being able to attend the annual meeting of the 20th inst. This to me will be a grievous disappointment, because, having been detained from the annual meeting of last year, in attending to the matter of the bequest by the late Elliot Cresson, I had not the opportunity when re-elected President to return thanks for the renewed expression of confidence and respect with which the Society then honored me; and that at the forthcoming meeting, I shall likewise be debarred the pleasing duty of making my acknowledgments in a manner suitable to my inclinations. But I hope the society will take the will for the deed, and accept this brief assurance in acquittal that to the present I hold in grateful recollection, the honor it did me on that occasion.

It is also a matter of regret that I cannot be present to participate in the business that will be brought before the meeting, and that I shall not have the pleasure to explain verbally the reasons why I have determined to decline a re-election. Of this determination you, and most of the active members of the Society, have been apprised for some time back, and I now request that it be formerly announced to the society, when met at the proper time.

Apart from the demands of private affairs upon my time, which require more attention than I can bestow upon them consistently with the discharge of official duties; the propriety of a change occasionally in the Honorary officers of the Society, would alone be sufficient to induce me to decline a re-election. Rotation in office will be found I think to work as well in the Society as rotation of crops upon the Farm. That the change now to be made in the Presidency, may prove highly beneficial to the Society, is the ardent wish of

Very respectfully, your obedient servant,
James Gowen.

R. C. Walker, Esq.
Secretary of Pennsylvania State Agricultural Society.

R. F. Kerr then nominated the Hon. William Wilkins, who, being present, acknowledged the honor tendered, but most respectfully and peremptorily declined being a candidate: his name being withdrawn, Samuel Gilliland nominated David Taggert—the several nominations for Vice Presidents, additional members of the Executive Committee, Corresponding Secretary, Chemist and Geologist, and Librarian were then made. On motion it was resolved that the meeting proceed to an election by ballot in accordance with the Constitution. After the election had proceeded until all who were entitled had voted, on motion of James Irvin the polls were closed, at half past four P. M. After duly registering and counting the votes, the Tellers reported that the following named persons had received a majority of all the votes polled; whereupon the Chair announced that the following persons were the duly elected officers for the ensuing year, and until another election:

*President.*
David Taggert.

*Vice Presidents.*
1st District—George W. Woodward.
2d do. A. T. Newbold.
3d do. Charles K. Engle.
4th do. Jospeh Yeager.
5th do. Thomas P. Knox.
6th do. A. R. M'Ilvaine.
7th do. Adrian Cornell.
8th do. George M. Keim.
9th do. John Strohm.
10th do. John P. Rutherford.
11th do. Amos E. Kapp.
12th do. E. W. Sturdevant.
13th do. Asa Packer.
14th do. William Jessup.
15th do. H. N. M'Allister.
16th do. Jacob S. Haldeman.
17th do. William Heyser.
18th do. Elias Baker.
19th do. John M'Farland.
20th do. Joshua Wright.
21st do. John Murdoch, Jr.
22d do. William Martin.
23d do. William Maxwell.
24th do. William Bigler.
25th do. James Miles.

*Additional members of the Executive Committee.*
Frederick Watts.
James Gowen.
A. O. Hiester.
Isaac G. M'Kinley.
John C. Flenniken.

*Corresponding Secretary.*
A. Boyd Hamilton.

*Chemist and Geologist.*
Prof. S. S. Haldeman.

*Librarian.*
Henry Gilbert.

On motion of A. O. Hiester it was unanimously Resolved, That, hereafter, persons wishing to vote for officers of this Society at the Annual Meetings, will be required to produce either a certificate of membership thereof, or that their name be found of record on the Secretary's books kept for that purpose, and that the Secretary shall hereafter annually prepare an alphabetical list of the names of the members of this Society, which he is required to arrange in a book and have present at each Annual Meeting.

R. H. Kerr offered the following resolution which was unanimously adopted: Resolved, That the members of the Penna. State Agricultural Society tender to James Gowen, Esq., their grateful thanks for his able and efficient discharge of the duties as President of this Society; and that in his retirement from office he carries with him the best wishes and kindest regards of the Members, collectively and individually.

On motion of James Irvin, it was resolved that the Secretary be required to publish the proceedings of this Meeting.

On motion of John P. Rutherford, a vote of thanks was tendered to the Chairman of the Meeting for the prompt and able discharge of his duties as presiding officer of the day.

On motion the Meeting adjourned.

## OBSERVATIONS ON THE MIDGE.

*Editors of the Farm Journal.*

Gentlemen:—Enclosed we send you a small sample of the Wheat Midge which has been for several years, ravaging our fields, and last year nearly succeeded in the destruction of the wheat crop in this vicinity. We send them, not as most of the novelties of the day are sent to be *puffed* and *sold*, but, that they may, by the aid of a magnifying glass, be examined carefully and impartially, and after testimony being heard, may be sentenced accordingly.

We do testify that a numerous host of them were hatched last summer in due time to destroy our wheat crop, which they did to their satisfaction, or, at least to our extreme inconvenience and provocation; that having accomplished this, they, contrary to the nature ascribed to them by different writers, instead of being "washed out of the heads of wheat by rain, blown out by wind, or descending the stalk,"* have remained in the heads of wheat until it was ripe, were carried to the barn, caught in the heavy part of the chaff and screenings and are now prisoners, safely shut up in boxes for further judgment.

While it is conceded by all, that the Midge in order to come out a fly must and does get to the ground in some stage or other of its existence, the experience of different men seems, at first sight, to differ widely as to how and when it accomplishes this. Dr. Harris supposes it to be washed from the wheat heads by rain, blown out by the wind, or to descend of its own accord. Dr. Fitch recommends vast nets to catch the flies by countless millions as they rise from the ground the next summer. Dr. Darlington proves by catching them in wooden traps that they *do* come out of the ground where wheat has been raised the preceding year. While others have saved their crops by burning them in the *chaff*, after the wheat has been harvested and threshed. To the last mentioned practice, or to that recommended by the "Mark Lane Express" and by Prof. Henslow, we feel strongly inclined to hold as the most rational method of getting rid of the pest, while, at the same time, we give due credit to the experiments made by Mr. Darlington and others. To this conclusion we are forced by experience.

We had last season two fields of wheat of different varieties and at a distance from each other.—Both were, at the same time nearly destroyed by the Midge, with this peculiar difference: in one field the larvæ, apparently, all remained in the heads of wheat and were carried to the barn, as we have stated above, while, in the other field they all escaped to the ground. But, how reconcile these conflicting principles in Entomology? Is then the Midge alone of all Nature's works left to chance, without any certain method of getting to the ground, its natural place of winter rendezvous? Not so at all! A close observation of the powers and habits of this insect, and of the circumstances under which it escapes from the head of wheat to the ground, and of those under which it does not, will soon convince any reasonable mind that both the above mentioned experiments are perfectly credible without at all conflicting with Nature's laws.

In the first place, leave the whole to Nature and watch the process. If the full grown larvæ is not able to make its escape from the head, which is often the case, it waits rather impatiently there until the grain is ripe and in the course of Nature the head and its inhabitants fall to the ground, when all is right for the grain and the insect to commence another round. But here the monster man has interposed the artificial practice of harvesting the grain and carrying it to his barn, and Nature on the other hand, all bounteous to her creatures, has provided the little insect with another means of escape. It is well known that in this stage of existence it has neither wings, feet nor any power of locomotion, except that by a sudden twitch or jerk of the body it can throw itself to a little distance. It has therefore no power to crawl down the stalk as some have supposed; nor is it very liable to be blown out of its cradle by the wind; nor washed out by rain; but, in certain varieties of wheat, as the grain ripens the chaff opens and inclines more or less towards a horizontal position. From such heads it can throw itself without much difficulty and falls to the ground; while, in other varieties and most particularly when the grain has been destroyed, the chaff retains its upright position, adheres closely to the spike and does not open. From such it *cannot* make its escape, and when intercepted in its last resort of falling with the head to the ground, it becomes a prisoner and is wholly at the mercy of man. Here we must beg to be excused if we introduce an idea somewhat at variance with the conjectures of entomologists.—It has been stated that the larvæ moults *in the head* of wheat; that its dormant state lasts only a few days, and also that *some* moult upon the surface of the earth. The last mentioned seems in all probability, to be their natural place of moulting; but when unable to reach this at the proper time, i. e., soon after the maggot is done eating, they enter the dormant state in the head; and the length of time they remain in this state, seems to depend, not upon their nature but upon outward circumstances.—*Probably* the *moisture* they receive, when the head, in the course of Nature, falls to the ground, it soon becomes sufficiently damp to enable them to moult. In other cases rainy weather accomplishes this and "they commence living again" in the desperate struggle to get into the ground. But, when entirely deprived of moisture, they are unable to moult *at all* and in this state not only "late broods," but early ones too are carried to the barn. Whether after this they are ever able to moult, we have not yet ascertained, but will endeavor to do so between this and next harvest.

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* This appears in all cases to be only conjecture.

With these facts in view, the course to be pursued seems to be a plain one. We should sow only such varieties of wheat as are *very hard to thresh*, cut the wheat pretty green, i. e., as soon as it is fit to cut, grind or boil all the screenings and burn or sift the heavy part of the chaff, and if this does not entirely exterminate the little pest, we are of the opinion it will so reduce their numbers as to render them comparatively harmless.

We are aware that we have trespassed rather long upon your time and space, but when the question comes up of bread or no bread, we feel inclined to lay other matters aside and give the subject due consideration. F. S.

*Moss Grove*, Feb. 6th, 1857.

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## BREEDING IN AND IN.

RESPECTED EDITORS.—Great diversity of opinion exists among agriculturists in reference to what is usually termed breeding in and in. That is confining the propagation of stock to the species with which it is immediately connected, without admixture, even of the same species from elsewhere. So far as my experience goes, the idea that such a mode of breeding naturally produces degenerate animals, is a fallacy, in opposition to a fundamental law of Nature. That like begets its like, if no unnatural obstruction prevents its full development. It may, however, be subject to some modification for better or worse, owing to the influences with which it may be invested.

With reference to swine a few practical common sense rules, closely adhered to, will produce a superior from an inferior breed in a short space of time. Select the best pigs at the usual age for weaning. Then at the age of 6 or 8 months select those pigs possessing the most valuable properties for the purpose required. By continuing this process with care and judgment, any person may furnish himself with stock of the best kind, independent of his neighbors or any other person.

The finest pigs of a litter, after weaning, will sometimes become the most scrubby, while the runt frequently outstrips all competition, so that there is no certainty that fine pigs will make fine hogs, but there is to a great extent that a fine shoat will.

When I commenced farming, some 23 years ago, I became possessor, by purchase, of some porkers who appeared to have inherited some of the qualities of the learned pigs kept for exhibition in those days, so far as their determined manœuvring and success were concerned to counteract my efforts to keep them in a five rail pen. They almost seemed to possess a magical faculty to control circumstances by the mere force of their cunning and skill; any aperture or crevice unwarily left open to their keen eyes, large enough to poke through a little more than the tips of their nose would be sufficient to put them on the alert to discover some mode of compressing themselves through. Then taking a survey of things in general and making somewhat unpleasant demonstrations upon things in particular, would end in a universal promenade over the premises. They scorned all restraint which interfered with their pleasure and will; to them the law was a dead letter, for they went upon the principle of every fellow for himself, no matter who suffers, (much after the manner of some of our modern scurvy political rats, who set all right, rules and regulations, justice and shame equally at defiance.) When fairly outgeneraled by the use of divers means in closing up seams and breaches, they would make a sudden bolt upward, scaling the pen with as much facility as though walking a perpendicular surface was a trait natural to their species. It would have been rare sport to outsiders to have watched the anxious manœuvering on both sides—each to outwit the other; the

stern determination on the one side to confine safely, the equally strong determination on the other to escape; success, a great portion of the time, being pretty evenly balanced, so much so, that it seemed uncertain for some time which way the scale would eventually turn. It made a deep impression upon the mind of one of the parties engaged in the struggle as is somewhat evident from the facts here disclosed, and he can testify to sundry griefs and vexations of spirit evolved during the contest, which, owing to the successful perseverance of the shoats, was more protracted than was either agreeable or profitable. Such a state of affairs could not in the nature of things continue long without danger of a general explosion. The consequences of which, inasmuch as it never occurred, are of course hidden in the womb of futurity. Such being the aspect of the case, it became necessary to inaugurate a new order of things, which was accomplished by the introduction of a fine hog, which accidentally turned up like a stray waif just at the time he was most needed. With the progeny thus acquired, I commenced the system already referred to, and in five years they became celebrated for their symmetrical form, quiet disposition, rapid growth, small amount of offal compared with their flesh weight, also the small amount of feed required to produce a great weight, two of them, one of which had been a runt, were purchased by a neighbor at 10 cents per lb., judging them to weigh 75 lbs., were slaughtered by him in about 13 mouths, weighing upwards of 1150 lbs., yet consumed but little more according to the judgment of the feeder, than one which he had purchased elsewhere, which weighed when dressed something rising 600 lbs. THOS. HOPKINS.

*Montgomery County*, Pa., 2d Mo. 12th, 1857.

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**For the Farm Journal.**

MESSRS. EDITORS:—We regret to hear from various quarters of the sad havoc made among fruit trees and shrubbery by mice the last winter. In some instances whole orchards of young apple trees have been almost totally destroyed. The planting of orchards, or cultivation of the various fruits, is a matter so much neglected by farmers generally, that those who give this important part of agriculture some attention, deserve approbation and sympathy too, when they meet with such discouragements as above stated. Such losses can not be repaired for years, and is not only a loss to the individual who sustains it directly, but to the community around, also. As might be expected, remedies to prevent the depredations of those little animals are earnestly inquired after, and it should be the endeavor of all who may be in receipt of any thing to that effect, to give publicity to it.

We have been for several years paying some attention to the growing of an apple orchard, and as we have been pretty fortunate so far, and if our mode of treatment will be of any advantage to others, we give it cheerfully.

Our orchard numbers 125 trees, which have been planted from eight to twelve years, and during which time we have not lost a single tree by mice or moles, although we have not applied anything to the bark nor to the ground about the roots, as a protection against them.

We farm our orchard ground in some spring crop every year, such as oats, buckwheat, potatoes, &c., this frequent stirring of the soil may prevent these animals from taking up their residence for any length of time that would give them chance to breed, and thus infest the premises in a few years to the destruction of the trees. We have practiced this mode of treating our orchard, especially to promote the growth of the trees, for we believe that no orchard should be laid down in grass while the trees are less than twelve years planted. The practice, which is too common, of planting orchards and then abandoning them to grass and weeds is but the name of rearing fruit trees. Trees thus treated are sadly retarded in their growth, while every encouragement is given to moles and mice, and a loss too sustained in not cropping the ground as might be done yearly.

But the only thing in particular that we have done to prevent the ravages of these "varmints" has been to have the orchard grounds grazed as short as possible in the fall of the year, and all leaves and grass that may be about the trunk of the trees, carefully removed. We can, Messrs. Editors, recommend the treatment of orchard trees as given above with the more confidence from the fact that the vigor and growth of our own will compare favorably with almost any other of its age, and also that no injury has been done to even a single tree by mice. J. H. ALEXANDER.

## APPROPRIATION FOR THE FARMERS' HIGH SCHOOL.

We are glad to observe that a bill has been introduced into our State Legislature making a handsome appropriation to meet the wants of the Farmers' High School, located in Centre County, and in regard to the prospects of which our readers have been kept fully advised by several correspondents. We are led to hope that our legislators will appreciate the importance of giving to this bill the attention it deserves. It stands intimately connected with the leading interest of our State, and is, if we except the annual appropriation made to the State Agricultural Society, the only thing that has ever been asked by the Agricultural community from the Commonwealth. Liberal appropriations have been made in the direction of almost every other interest, and should be in this. Stimulated by the energetic action of those who were first to propose and who have carried into effect thus far the idea of a Farmers' High School, other States have followed their example, and already liberal sums have been appropriated to purposes of the same kind in several of them. The example set them by Pennsylvania was the argument with which the friends of similar enterprises in other States have succeeded in prevailing upon their legislators to give the required assistance. It would be excessively mortifying now, should we, who have taken the lead thus far in the good work, be compelled to take the rear position. But we will hope for better things. The insignificance of the appropriation asked, as compared with the importance of the interests involved, must, we think, lead to the passage of the bill, particularly as it has the hearty and earnest support of many of the most influential friends of Agriculture in the State.

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## POINTS OF A GOOD SHORT-HORN.

The appearance and points of a good Short-Horn may be thus briefly summed up. The head of the male animals is short, but, at the same time fine; very broad across the eyes, but gradually tapering to the nose, the nostril of which is full and prominent, the nose itself of a rich flesh color, neither too light or dark; eyes bright and placid, with ears somewhat large and thin. The head crowned with a curved and rather flat horn, is well set on to a lengthy, broad and muscular neck; the chest wide, deep and projecting; shoulders fine, oblique, and well formed into the chine; fore legs short, with the upper arm large and powerful; barrel round, deep, and well ribbed up towards the loins and hips, which should be wide and level; back straight from the withers to the setting on of the tail, but still short, that is, from the hip to the chine—the opinion of many good judges being that a beast should have a short back with a long frame. As a consequence of this, the hind leg must itself be lengthy, but well filled in. The symmetry of frame at present to be found in a well bred Short-Horn reaches as near perfection as possible, while few animals handle so well, or to use a still more technical term, have "so fine and mellow a touch." The hair is plentiful, soft and mossy, with a hide not too thin, and in fact somewhat approaching the feeling of velvet. The female enjoys nearly all the same characteristics as the above, with the exception of her head being finer, longer and more tapering; her neck thinner, and altogether higher, and her shoulders inclined to narrow towards the chine. Like most well proportioned animals, the Short-Horn often looks smaller than he really is. The rapidity with which he puts on flesh, and the weight he frequently makes, are facts so well known that it is scarcely necessary to dilate upon them. Still we may mention that it is no uncommon occurrence to see steers of from four to five years old realizing 140 stones of 14 pounds; many ranging as high as 150 stones.—*Enc. Ag.*

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## THE GREAT SNOW STORM OF JANUARY, 1857.

*Report to the Navy Department.*

Observatory, *Washington*, February 5, 1857.

Sir: Letters in answer to the circular issued on the 23d ultimo from this office have already been received from the States along the Atlantic seaboard. They contain statistics enough concerning the great snow storm of January 1857, to justify a preliminary report of its march over this part of the country.

The hour when it commenced, and the hour when it ceased to snow, constituted very notable features by which the march of this storm could be traced. The precise moment of the commencement, however, was not very well marked; for there was a light fall of snow, which, after an hour or two, increased into a very heavy fall. Hence observers at the same place are sometimes found differing an hour or so in their reports as to the commencement of the snow fall.

There has not yet been time to receive full returns from the States south of Virginia. So far, however, as returns have been received, the fall of snow, with a furious north wind, appears to have commenced simultaneously in Virginia and North Carolina, the storm then marched against the wind through Virginia into the New England States. It did not reach as far as Hamilton, Canada, on one hand, but on the other, it is known to have extended into Nova Scotia, if not further.

The following tabular statement has been compiled by Lieut. Bennett from the reports, so far as they have been received. It will serve to show the parts of the country from which further reports are most wanting, and perhaps induce all who keep a meteorological record to send extracts from it for the week commencing 14th January, 1857.

From Bertie county, North Carolina, to Washington, the course of the storm was due north, and the time three or four hours. From Washington to New York it was about fourteen hours on the march, with a furious gale right in its teeth; thence to Boston it flew at railway speed, making the distance in six hours; and thence it arrived at Portland, Maine, at 11 P. M. of the 18th; thus making its march in the "wind's eye" from North Carolina to Maine, in about twenty-six hours. The cold, the wind, and the fall of snow, all of which were marked by violence, appear each to have had its own rate of march.

| Beginning of Storm. | 1857—January. | Wind. | Thermometer. | Depth of Snow. | Ending of Storm. | Thermometer. |
|---|---|---|---|---|---|---|
| Edisto Island . . . . . | 2½ p. m. 18 | West. | †34° | ½ inch. | 5½ p. m. 18 | †21° |
| Augusta, Georgia . . . | 8½ a. m. 18 | West. | †38 | 7 " | Night 18 | †8 |
| Normal College, N. C. | 9 p. m. 17 | North East. | †10 | 18 " | Night 18 | –6 |
| Roxobel, N. C. . . . . | 9 p. m. 17 | South. | — | 12 to 15 | 9 a. m. 19 | †7.5 |
| Providence, Va. . . . . | 8½ p. m. 17 | North. | †12 | ——— | Noon 19 | †10 |
| Bowling Green, Va. . | 8 p. m. 17 | South West. | †32 | 15 to 18 | 2 p. m. 19 | †18 |
| Augusta County, Va. . | 8 p. m. 17 | North East. | †24 | 12 to 15 | 10 p. m. 19 | †2 |
| Kanawha Salines . . . | 17 | W. & N. W. | †5 | 10 to 12 | 19 | –13 |
| Jessamine County, Ky. | 5 p. m. 17 | N. N. W. | — | ——— | 11 a. m. 18 | — |
| Middleburg, Va. . . . . | 7 a. m. 18 | North East. | †4 | 12 inches. | 12 m. 19 | †6 |
| Leesburg, Va. . . . . . | 7 a. m. 18 | North. | †6 | 10 to 12 | Evening 19 | †12 |
| Berryville, Va. . . . . . | 7.45 " 18 | North. | †5 | 8 inches. | 8 a. m. 19 | †11 |
| Martinsburg, Va. . . . | 9 a. m. 18 | North East. | — | 10 inches. | Noon 19 | — |
| Perrymansville . . . . | 3 p. m. 17 | North East. | †4 | ——— | Night 18 | — |
| Sarou Creek, Md. . . . | 7 a. m. 18 | North East. | †4 | ——— | 1 p. m. 19 | †18 |
| Monrovia, Md. . . . . . | 7.25 " 18 | North West. | — | 18 inches. | 12 p. m. 19 | — |
| Hagerstown, Md. . . . | 8 a. m. 18 | N. N. W. | –6 | 8 to 10 | 8 a. m. 19 | –0 |
| Cochranville, Pa. . . . | 10 a. m. 18 | North. | — | 9 inches. | 12 m. 19 | — |
| Philadelphia . . . . . | 1 p. m. 18 | North East. | †7 | 24 inches. | 3 p. m. 19 | †16 |
| Bristol, Pa. . . . . . . | 1 p. m. 18 | North. | zero | ——— | Morning 19 | — |
| Willingboro', N. J. . . | 1 p. m. 18 | North East. | –1 | 7 to 8 | 10½ a. m. 19 | –3 |
| Lambertsville . . . . . | 2½ p. m. 18 | North West. | †2 | 16 inches. | 12 m. 19 | 15.5 |
| Morristown, N. J. . . . | 3½ p. m. 18 | N.N.E. to N.E. | –2 | 9 to 12 | 5 a. m. 20 | †18 |
| Newark, N. J. . . . . . | 2 p. m. 18 | North. | –4 | ——— | 3 p. m. 19 | †13 |
| Newark, N. J. . . . . . | 3 p. m. 18 | North. | –2½ | 13 inches. | 3 p. m. 19 | †18 |
| Brooklyn, N. Y. . . . . | 2 p. m. 18 | ——— | †7.5 | ——— | Evening 19 | †14 |
| Babylon, L. I. . . . . . | 4 p. m. 18 | North East. | †1 | ——— | 19 | — |
| New York . . . . . . . | Noon 18 | North West. | †1 | 9 inches. | 19 | †13 |
| Blackwell's Island . . | 3 p. m. 18 | North. | †3 | 24 inches. | 1 p. m. 19 | †10 |
| Wheeling, Va. . . . . | No snow. | North East. |  | ——— | ——— | — |
| N. E. Duchess Co. . . . | Night 18 | N. N. W. | –10 | 24 inches. | Night 19 | — |
| New London . . . . . . | 8 p. m. 18 | North. | †5 | ——— | Morning 20 | †11 |
| Smithfield, R. I. . . . . | 7 p. m. 18 | North East. | — | 24 inches. | Evening 19 | — |
| Harvard College. . . . | 5 p. m. 18 | N.W. & N.N.E. | –4 | 17 inches. | 9 p. m. 19 | †8 |
| Boston . . . . . . . . . | 7½ p. m. 18 | North. | †2½ | 18 to 20 | 12 m. 19 | †13 |
| Salem, Mass. . . . . . | 8 p. m. 18 | North East. | –5 | 18 inches. | 4 p. m. 19 | — |
| " " . . . . . | Evening 18 | North East. | †5 | 8 to 9 | Evening 19 | †12 |
| West Roxbury . . . . . | 5 p. m. 18 | N. N. W. | †2 | ——— | Night 19 | 14½ |
| Lynnfield Centre . . . | Evening 18 | N. W. to N. | zero | 4 feet | 3 p. m. 19 | †8 |
| North Bridgewater . . | Morning 18 | North West. | –1 | ——— | Daylight 19 | — |
| Worcester, Mass. . . . | 9 p. m. 18 | North East. | –1 | 10 inches. | Evening 19 | †9 |
| Newburyport . . . . . | 7 p. m. 18 | North East. | –2 | 12 inches. | 19 | †9 |
| Troy, N. Y. . . . . . . | 9 p. m. 18 | North. | –7 | 20 inches. | 8 p. m. 19 | †5 |
| Cooperstown . . . . . | 0.30 a. m. 19 | North East. | –10 | ——— | Sunset 19 | †1 |
| Rochester, N. Y. . . . | 19 | North. | †17 | ——— | 20 | †21 |
| Charleston, N. H. . . . | Daylight 19 | N. N. E. | zero | 18 inches. | 5 p. m. 19 | †12 |
| Portland, Me. . . . . . | 10 p. m. 18 | North. | –3 | 12 inches. | 2 p. m. 19 | †12 |
| " " . . . . . | 10.30 " 18 | N. N. W. | –6 | 12 inches. | Evening 19 | — |
| Gardiner, Me. . . . . . | 00. 19 | North East. | –2 | 10 inches. | 9 p. m. 19 | –6 |

How far this storm may have been felt out at sea is not yet known, for there has not been time to receive reports from the vessels that are coöperating with us in these investigations. It is known, however, that the storm extended as far as Nova Scotia.

The fury of this storm has been unequalled for many years. Never since the establishment of railroads has there been such an interruption of travel or hinderance to the mails. It illustrates in a very striking manner the necessity—if we wish thoroughly to investigate the laws which govern the movements of the great aerial ocean in which we live—of extending our meteorological researches from the sea to the land. What though this storm may have had its origin on the land, it caused many and dreadful shipwrecks along the shore and made disasters at sea.

The appliances which, in the progress of the age, have been placed within the reach of men of science would, had the power of using them been possessed by these men, have enabled them to give timely warning of the approach of this storm to many whose lives such warning would have saved.

If the system of daily weather reports through the telegraph which you have recommended for the Observatory had been established, New York and our shipping reports might have had from eighteen to twenty-four hours warning in advance of this storm: the industrial pursuits of the country and the convenience of the public, as well as the shipping interests might have all had the benefit of such fore-knowledge; for the telegraph, the press, and the mails can in a country like this outstrip the wind, and spread the news of the coming gale faster than it can fly.

Are you aware that at this season of the year the average number of shipwreck is about one American vessel for every eight hours, and that the total value of the losses at sea for the month of January, is set down at something like four millions of dollars.

It is quite practicable to give such warning. The Magnetic Telegraph offers us the medium, and the "Associated Press," the channel for doing it. By extending to the land the system of meteorological research, which is carried on at sea, and by establishing a plan for receiving daily by telegraph and discussing promptly, a series of weather reports, from all parts of the country, warning might be given as well to the husbandman as to the mariner, of the approach of almost every general storm while yet it was a great way off.

How many of these losses would have been spared the country could a few hours warning have been given of this storm alone, to say nothing of others?

The Government has wisely sought to mitigate the disasters of shipwreck, and money has been humanely appropriated for the purpose; but, notwithstanding these efforts, great suffering has been encountered, as in the case of the ship New York last December, after the crew and passengers had been rescued from the wreck.

Both the Long Island and Jersey shores are curtained for many miles by a narrow slip of land which is separated from the main by a sound or strip of water from one to several miles in breadth. There are very few houses on this slip of land, and it sometimes happens that ships are driven ashore, as in the case of the New York, and the people on the main cannot cross over the sound by reason of the ice and cold, to the scene of disaster. It has been suggested by Mr. W. F. Brown, a Senator of the New Jersey Legislature from Ocean county, that if a few hours warning of these storms could be given by telegraph, a force in advance of every storm might be collected on this narrow strip of land ready to afford succor at once and as soon as a vessel should find herself ashore.

I propose with your leave, when all the answers to the call for the statistics of this storm shall have been received, to go into a regular discussion of it, and to illustrate its march and progress by plans and drawings.

Respectfully, &c.,

M. F. MAURY.

Hon. J. C. DOBBIN,
*Secretary of the Navy, Washington.*

## IMPORTANCE OF MINERAL COMPOSITION TO SOIL.

It is of the utmost importance in a primitive country for the agriculturist to select when he is about to purchase a farm, a locality where the mineral substances abounding, are of a character calculated to sustain and supply the soil with the material necessary for the production of a vigorous growth of vegetation.

If a soil is selected that is supplied by nature with the elements and substances demanded by the economy of vegetable life, then we have what is termed a soil of a good natural quality; and it is obvious much labor and expense is avoided, nature having superseded the necessity of supplying manures and stimulants at a heavy cost.

Now, if we can find any mineral substance containing a stimulant or manure well diffused by nature in the soil, would it not be wise to select such locality where it abounds?

The substance known as hornblende, belonging to the earthy class of minerals, is very abundant. It is found chiefly in primitive countries, but occurs more or less in secondary formations; it frequently enters into the composition of gneiss, and is an essential ingredient in sienite and greenstone.

It is generally found dispersed all over the district where it occurs, in every intermediate rise, from rocks down to a pebble or grain of sand. Hornblende, its species and varieties, contain more lime

than any other mineral that is common and generally diffused, with which I am familiar.

Quartz, or what is called flint, is very abundant, it is almost entirely composed of silex, one of the most abundant earths in nature, but it contains no lime.

Feldspar that is found largely mixed with the soil in small fragments, contains but three parts of lime. Mica and talc, two quite abundant minerals, contain but one part of lime. Serpentine, a very widely dispersed rock, contains but six-tenths of lime. Clay or roofing slate contain no lime; neither does the rock known as mica slate, so abundant in many regions, while hornblende contains 12.75 of lime.

In all districts where the stone in which it abounds is not too hard, the disintegration and decomposition of this mineral is continually fertilizing the soil. The sienite rock, of which hornblende forms so large an ingredient, is frequently quite soft, yielding to any accidental or mechanical force, to the frost and water, being reduced to sand, mixing with the soil, keeping it loose as well as forming by its chemical agency, an important stimulant to vegetable life.

Land on which hornblende is distributed, or what is usually termed black rock land, does not require the application of so much lime as is necessary upon clay or slaty soils, and it is the opinion of the writer, who is a practical agriculturist, that where the stone is soft it requires none at all, the disintegration of the hornblende being amply sufficient to supply the necessary quantity of lime to the soil to insure luxuriant crops.

JOHN J. WOODWARD.

## IS IT POSSIBLE?

Is it possible, gentlemen? not gentlemen editors, but gentlemen farmers, agriculturists of Pennsylvania, myself included; I appeal to the profession in the name of common sense for an answer to the question, *Is it possible* that all the agricultural interest of Pennsylvania, the keystone of this glorious union of Agricultural States is concentrated in three or four gentlemen in the city of Philadelphia?—the most worthy editors and publishers of the Farm Journal.

Is it possible that a set of a men possessed of as good common sense as the farmers of Pennsylvania generally are, can expect half a dozen or some such matter of persons, caged up in a city, to originate within themselves and produce matter of instruction, of advice, of duty, of neglect, of experiment, of communication, &c., &c., &c., upon all the various branches of business which come under the head of duties of the agriculturist, all sufficient to keep up that degree of usefulness and interest which ought to, and easily might grace the pages of the only agricultural periodical of our State?

It must be obvious to every one who reads the Farm Journal, that there are and long has been a few gentlemen laboring most indefatigably to arouse the dormant faculties of the agriculturists of our State. To arouse us to what? not to elect *them* to the office of President of the United States of America, nor to any other office of honor or profit, but to arouse us to an appreciation of our own interests, to arouse us to assert and maintain our legitimate rights to the very highest degree of usefulness, of respectability, of wealth, of honor, of ease, of power, and of all other blessings enjoyed by the human family. And not only this, but they have held out to us the means of so doing, and have invited, begged and entreated us only to put forth our hand and grasp the prize of our high calling, by an interchange of our views, ideas and sentiments with each other. This they have done by giving to us at a trifling cost, a vehicle through which to act. And all that is left for us to do is for each, and *every one* of us to forward to them, in any rough or crude form, most convenient to us, all useful ideas and observations with plans, experiments, results, &c., which come under our notice in any of the various branches of our occupation, for them to cull, arrange, and send back to us in such form as will enable us, in a few hours; and that on a winter's evening or a stormy day, to glance over the most important operations of the whole farming community of our State. Thus might we make our Journal a universal mirror, reflecting the stupendous operations of all in one grand focus for the use of each of us. To the work then fellow-farmers, let us send in short notes and plenty of them, that they may be able to throw aside nine-tenths and still have enough. And, incidentally don't forget to slip in, for a New Year's gift, the "Almighty Dollar;" it aids wonderfully in urging the vehicle forward. And now, gentlemen editors, if you find any thing offensive or unsuitable according to your views of propriety in the above, you have full permission without danger of offending, to strike it out, or to lay the whole "on the table;" but the four yellow boys *enclosed*, we would advise you put in the *draw*.

Now good night, gents, both farmers and editors. We will be very happy here in the backwoods to hear very soon from you all.

Most respectfully yours, &c.,

F. S.

*Moss Grove, Christmas evening*, 1856.

P. S. We expect to be able to dedicate our next to the editors of the Farm Journal, subject—Hard testimony against our favorite practice of "pickling seed-wheat in strong brine," found on page 351, November number, 1856. We are making some little experiments in the matter and they will *have to* hear the result.

F. S.

For the Farm Journal.

We are glad to see the interest that is felt about the introduction of the Chinese Sugar cane, and we have no doubt our enterprising farmers will cheerfully give it a trial; but we think it important that our agricultural journals should give them timely information as to the manner in which the juice is to be obtained after the cane is matured. It cannot be expected that much expense will be risked in providing sugar mills or presses until the practicability of growing the plant in our latitudes is ascertained, and to give it a complete trial on a small scale will require some common or simple process not yet understood by our farmers generally; perhaps some of your intelligent southern correspondents will be so kind as to impart their experience, and tell us in what way the experiment may be fully tried. If, as is asserted, more than 700 gallons may be obtained from a single acre, we could hardly cultivate any crop that would be more profitable. We should also have a reliable account of the method of preparing the ground, planting, cultivating &c., so that no failure need occur for the want of all the necessary information.

Chester County.

## PRUNING.

There is, perhaps no subject in horticulture so little understood as the principles upon which pruning is founded. The object in pruning fruit trees is chiefly to hasten or regulate the crop of fruit, and induce or retard the development of wood growth. With reference to the former, more depends upon summer pruning and disbudding. Trees are frequently barren from excessive wood growth, which is weakened by pruning during summer. It is a well understood fact among scientific cultivators, that summer pruning weakens, and winter pruning strengthens the wood growth. Hence the practice of nurserymen in pruning young trees after the season's growth is completed, to increase their luxuriance.

Trees that have arrived at a bearing state, if properly managed during growth, would probably require no winter pruning, unless the removal of large and misplaced branches. In the abstract, it seems a negative practice to encourage a luxuriant growth, and then cut it down in winter. It is quite possible to manage trees without having recourse to winter pruning, unless for special objects, as already alluded to. It is certain that much injury is inflicted by the indiscriminate use of the saw and pruning knife, at this time, especially on young bearing trees.

Make it a study, next season, to disbud and summer prune all growing trees, so that you may weaken and check the wood; pruning such trees *now* increases their future vigor, since, by diminishing the branches after the fall of the leaves, the roots gain a greater preponderance. On the other hand, it is no less necessary to prevent weakness from overbearing. Since the introduction of the dwarfing system by grafting on weak growing stocks, this error has been frequently committed, and unprofitable trees have been the result. It has also had a tendency to throw discredit on the system, by those who from want of knowledge and experience, have been unsuccessful in cultivation. There are many kinds, naturally of slender growth—grafting them on slow-growing stock induces fruitfulness, and represses wood growth to an injurious extent. Such trees should have every blossom picked off that appears in spring, all growth carefully retained during summer, and pruned down in winter. Such treatment will be followed by increased vigor, which may be maintained by taking moderate crops, and continued good cultivation.

So much depends upon individual peculiarities in trees, that it is difficult to form a definite rule that would serve as a safeguard to the uninitiated. Close observation, extended experience, and, at the least, a *slight* knowledge of physiology, are indispensable requisites to the successful cultivation of fruits.—*Horticulturist.*

## EXTRACT FROM AN ADDRESS

*Delivered before the Pennsylvania State Agricultural Society, at Pittsburgh, at the close of the Exhibition,*

BY HON. GEO. W. WOODWARD.

Another want of Farmers, of which I am now to speak, is Agricultural Schools. I do not mean schools in which our sons are to have their heads filled with fanciful conceits and expensive theories of agriculture, but schools where solid learning shall be imparted in connection with practised agriculture—where the principles of science shall be taught, not as abstractions, but with applications to every department of the farm.

I said this society had encouraged the founding of one such school. A wealthy and public spirited citizen of Centre county, has given a valuable farm, in that beautiful valley which bears the name of the venerable founder of our State, and by means of contributions from various sources, suitable buildings have been begun, and will be ready, it is hoped, for the opening of the school during the next year.

The trustees, who are men of sagacity and prudence, are managing their limited means with strict economy, and if properly sustained by an enlightened Legislature and community, will make the college all it ought to be.

In the minds of some of the best friends of this enterprise, serious objections are entertained to the *location* of the school, but it is believed these will gradually give way. Centre county contains some of the best farm land and some of the best Farmers in Pennsylvania. No where are better crops of wheat and corn produced than in Nittany and Penn's valleys! and in one of the most healthful and beautiful portions of the latter is the Farm School to be planted. It was the generosity of the donor which determined the location. The objections have reference principally to the want of water, and the distance from railroad communication. The first of these objections I am assured can and will be obviated, and as to the latter, I have never felt its force. The school will be some twenty miles from the Central railroad, and, in my judgement, that is near enough. Boys had better be away from the temptations and annoyances peculiar to railroads, whilst accquiring education. And surely they can travel twenty miles without steam, in pursuit of such advantages as this school is to offer.

But the best way to obviate objections, whether real or fancied, is not to oppose this school but to build up others.

Similar schools are needed in other parts of the State. There ought to be one in the east and one in the west immediately. There is unemployed capital enough in the two great cities, at the extremities of the State, to found and endow such schools, and there are unemployed boys enough to fill them.

It is a mistake to suppose that our Common Schools are sufficient for the agricultural classes.—They are taught, for the most part, by young men and women who have had no experience in either practical or theoretical agriculture, and who have not mastered those natural sciences on which the art of agriculture rests. And these schools are overrun by crowds of children, who rush in for the winter months, to learn something of the very rudiments of a common English education, and who return, with the lengthening days of spring, to the workshop and the farm, to pursue a round of duties, as ignorant as ever, of all the philosophy which is peculiar to their work. The reading, writing, and ciphering of the Common Schools are, indeed, indispensable attainments—but I would have the future Farmers of Pennsylvania go on from these first principles to higher attainments—such as are worthy of their immortal natures and of the great art they are to practice. Not but that farming can be done without a knowledge of chemistry and natural philosophy—nay, without even a knowledge of the alphabet. The principles of practical agriculture, which may all be comprised under the selection of the breeds of plants and animals, the improvement of the soil and sub-soil, the culture or movement of the soil, the improvement of the local climate by shelter and drying, and the succession of crops may be learned by experience and tradition, and have been successfully practiced by many a man who could not read his Bible or write his name. The Romans understood them well, and taught them to every nation they subjugated, however rude and barbarous. They carried them into Britain, and the Saxon and Norman Farmer went on without an iota of agricultural literature, until Sir Anthony Fitzherbert, one of the Judges of the Common Pleas, in 1534, published a treatise called the "Book of Husbandry;" and another in 1539, entitled "The Book of Surveying and Improvement." I claim it as an honor to the judiciary that he was the first person on record who attempted to enlighten our English ancestry by writing on the art of agriculture, and I plead the fact in bar of the objection sometimes urged, that judges and lawyers ought not to meddle with agriculture. If you would judge of the soundness with which this quaint old judicial Farmer wrote, take the following extract from his work of husbandry: "And over and besides all this work, I will advise the young Farmer to rise betime in the morning and to go about his closes, pastures, fields, and specially by his hedges, and to have in his purse a pair of tables, and when he seeth anything that would be amended to write it in his tables, for a man always wandering or going about somewhat, findeth or seeth that is amiss and would be amended. And when he cometh home to dinner, supper or at night, then let him call his bailiff, or head servant, and show him the defaults, that they may be shortly amended. And when it is amended then let him put it out of his tables." I am not sure but that many of the hints of the sixteenth century would be useful to the agriculture of the nineteenth.

But back of these principles of practical agriculture, underlying the whole operations of the farm, are great natural laws which it is the business of physical science to interpret and explain. These laws cannot be taught without competent professors and appropriate apparatus, but they can be best taught in schools thus furnished, which connect themselves with practical agriculture and horticulture. Hence the idea of agricultural schools and colleges. They have been successfully tried in Europe, and movements are on foot in several of our sister States, for their organization, though I am not aware that any are yet in operation. If Pennsylvania shall lead the way, in a sound and enlarged agricultural education, as she did in building turnpikes, bridges, and railroads, it will constitute another claim to the honored title of the great Pioneer in the arts of civilization.

The character of the instruction to be given in such schools has been well sketched by Prof. J. B. Turner, of Illinois, in a paper which may be seen in the Patent Office Report of 1851, at page 37. His plan comprehends the study of the nature, instincts and habits of all animals, insects, trees and plants—of the nature, composition, adaption and regeneration of soils—of political, financial, domestic and manual economy in all industrial processes—of the principles of national, constitutional and civil law, and especially the laws of vicinage and comity between neighbors, and of book-keeping and accounts. Chemistry, mineralogy and natural philosophy must necessarily enter largely into such a course of education, and there ought to be added, it seems to me, a course of history and something of the classics.—Surveying, drawing, and landscape gardening, would also be appropriate accomplishments.

This seems like a formidable array of studies for a young Farmer to encounter, but as the lion in the pilgrim's path proved only a shadow when approached, so will all difficulties vanish before the resolute and earnest minded boy, who prosecutes with diligence these delightful studies, in a school fitted for his advancement.

Fellow-citizens—Farmers of Pennsylvania—these things are not unworthy of your sons to learn; but if you would have them learned, you must, out of your abundance, aid in the endowment and support of agricultural schools. Say not that your sons can farm without all this knowledge. They belong to a country and an age that are bounding onward with unprecedented power toward the sources of all light, and they must advance with others and everything around them. The problem to be solved is, not how ignorant a Farmer may be, and yet plough and plant successfully, but how much he may learn of those laws and principles of nature which touch his occupation. If unable fully to penetrate the arcana of nature—if life and death are hidden in recesses too profound and mysterious for human eyes to explore, there is still a vast field of truth spread out before him, on which new light is every day being poured, and into which the highest instincts of his nature bid him to enter and occupy.

It is sometimes objected that the cultivation of the mind unfits the man for the labors of the farm, and doubtless it is the great fault of some systems of education to do so, but it need not be so in our farm school, it will not be. Muscle is to be developed as well as mind—the hand is to be guided as well as the head—and we hope to send out full proportioned and well balanced men, as capable to work as to think. The cultivation of the intellect need not weaken the arm. Our sons shall be as strong to labor when they shall have learned the properties of soils and manures, and all that Farmers need to know, as they are now. Ignorance qualifies for nothing. If knowledge be power, you increase the effectiveness of labor when you increase its intelligence. The blind man cannot farm as well as he who has eyes.

And when we shall have begotten a generation of educated Farmers—actual tillers, who know what they do and why they do it, we shall have elevated and dignified our agriculture, refined our rural population, and have added value to every rood of ground within our borders. More. We shall have a race of Farmers fitted to adorn any of those many stations in civil government to which, under our happy constitutions, they are liable at all times to be called. I love to see Farmers in our Legislative halls and our executive offices. The sound sense which the farm begets, serves the public a good purpose in repressing the vain imaginations of mere theorists. But when that sound sense, nowise weakened or obscured, shall be enlarged, enlightened and refined by such an education as I advocate, the educated Farmer will be armed and equipped for any intellectual conflicts to which his country may call him, and shall be able to guide the affairs of State with the same discretion as the affairs of the farm. *We want agricultural schools.*

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*To the Editors of the Farm Journal:*

SIRS:—Having observed in the Farm Journal and other papers, articles, detailing the results derived from the cultivation of the lately introduced Chinese Sugar Millet, or Sorgham Saccharatum; (the former name is preferable for the present, as the latter is the systematic name of our ordinary broom-corn,) among them the statement of Col. R. Peters of Atalanta Ga., is the most satisfactory, and to which I particularly refer. And as his results, considering the productiveness of soil, the cultivation &c., correspond with my own experience, with the plant in question, in this latitude; although in a limited operation; may interest you and others who have given their attention to its introduction and cultivation, I furnish you with the following statement, which you may publish if you deem it of sufficient interest.

Last Spring I received a small package of the seed through the kindness of our esteemed representative in Congress, Hon. A. E. Roberts, who is always assiduous in his attentions to the interests of his constituents. About the middle of May, I planted a portion of this seed in my garden, in eight hills three feet apart, one way, and four feet the other;

placing 10 or 12 seeds in each hill. The soil was good garden loam. It came up with some common table corn planted at the same time. At several periods of its growth, I examined it to ascertain at what stage it was the most saccharine. That point is arrived at, in my opinion, when the seed is in the milky state, and I do not think that it is materially diminished even when the seed is fully ripe; but the plant is not then so succulent. I found also, that some canes were much sweeter than others, and that the sections, between the joints or nodes, were not all equally sweet; nor was it at all certain, where the sweetest portion would be found. In some it would occur in the lower, and in others, in the middle or upper sections. This characteristic indicates that the saccharine matter is not in the sap sent up by the roots, but subsequently elaborated by the plant by the absorption of the proper elements from the atmosphere. This idea being confirmed by the fact that those canes divested of part of the blades or leaves were much less sweet than those on which the foliage was abundant and vigorous. The canes therefore should not be stripped of the blades, for the purpose of forage, until the saccharine deposition is completed, when it is the intention of the cultivator to make syrup from them.

About the twentieth of September, I cut the canes: the seed being perfectly ripe, and the upper foliage still green and succulent. The canes averaged 12 feet in height and the whole weighed 120 pounds, minus the seed, leaves and a portion of the tops. Allowing that the eight hills occupied 72 feet, (they actually grew upon 36) an acre at the same rate would produce 72,600 pounds, nearly thirty-six and a third tons.

Not having proper machinery to extract the juice, with facility; I operated but on a small quantity; obtaining from the cane, by weight, 12 per ct. of syrup, marking 40° by Baumè, (sp. gr. 1.381.) Col. Peters obtained about 50 pr. ct. of juice, yielding 23 pr. ct. of syrup, sp. gr. 1·335 making the results in saccharine matter nearly the same, and the above product of an acre, 8712 pounds of syrup, of the density of molasses, or about 788 gallons.

In the product of the seed, there appears, however an extraordinary disparity, which can only be attributed to the character of the soil, and perhaps to the locality, hence we infer that the plant will produce more amylaceous matter, and equally as much saccharine, in this latitude. With Col. Peters the yield was 25 bushels per acre, weighing 36 pounds to the bushel; my 72 feet produced 13 quarts (weighing 38 lbs. to the bushel,) being at the rate of 245¾ bushels per acre.

A rough analysis of the seed indicates in 100 parts between 60 and 70 parts of starch, 6 to 9 of gluten and albumen, some sugar and oil, with about 25 of fibrous matter, loss and principles not determined; resembling oats in composition and would be equally excellent as feed for horses, and will yield as much alcohol as any other grain, wheat, perhaps excepted; when deprived of the chaff or husks, which is easily accomplished; it forms a rich and nutricious ingredient in soups and puddings, and if made into flour, it would make good bread and cake.

Thirty-five bushels of wheat, is a large average product of an acre of ground; being 2100 pounds of grain. The product of the same quantity of ground in sugar millet would be according to its yield with me, 9327 pounds: and when we reflect that this grain is nearly as rich in fecula and vegetable fibrin, we readily perceive its value for the production of alcohol or animal tissue. It is estimated that 100 pounds of wheat will produce 45 pounds of proof spirits. And assuming that the millet will yield 40 pounds, an acre would furnish by distillation of the seed 3734 pounds, or about 500 gallons.

From the foregoing data, any one may estimate the net value of an acre of this invaluable graminæ on our rich and fertile soil, that produces from 80 to 100 bushels of Indian corn to the acre.

The quality of the syrup is not inferior to any in market, when made with care. I made a beautiful limpid syrup, by mixing the expressed juice with a little water, and clarifying it, then evaporating in vacuo; having a neutral sweet taste, similar to a solution of refined sugar in water.

If the canes are bruised, boiled in water, and expressed; the liquid concentrated by boiling, adding a little carbonate of lime or soda, to neutralize any acid that may be present, and removing the scum that arises, it will make a syrup equal to the best sugar-house molasses. The clarified juice used instead of cider in making what is called in our rural districts "Apple Butter," a far superior article will be produced, especially if acid apples are boiled in it.

The brush or panicles, although short, are more wiry and elastic than those of the broom corn; and the inventive genius of the "yankee" will soon form useful household articles from them. And it may, also, be suggested, that the pith and fibrous parts would make paper similar to that made from the bamboo. Its value, as a forage plant is so well understood, that it is unnecessary to speak of it, the facility with which it may be kept, in the succulent or green state, after harvesting, gives it a pre-eminence over all others.

JOHN JAY LIBHART.

*Marrietta*, Jan. 16th, 1857.

*Bethel, February* 14*th*, 1857.

*To the Editor of the Farm Journal:*

SIR: You have given a place in your Journal to the combined attacks made on me by the Centre Co. Agricultural Society and a Mr. Waring. I hope you will be so good as to give also a place to my rejoinder, I send you hereby; though the preamble in the resolutions of the Centre County Agricultural Society have been a little modified for your Journal from those in the Reading Gazette, as you will see by the enclosed—yet they deserve my rejoinder.

For five years the Pennsylvania farmers have been cajoled by orators at agricultural fairs; some twelve thousand dollars have been taken out of the State treasury for some amateur farmers to play the lion. Where is the result of its benefit to the hard fisted farmer? To crown all this, four hundred acres are taken up whereon is not a living spring, not a rivulet to refresh man or beast, to convert it into a pattern farm, supplied with cistern water. Your Journal represents the interest of the farmer, will you say amen to it?

Respectfully Yours,
H. SHUBART.

For the Reading Gazette and Democrat.

*To the Editor of the Gazette:*

DEAR SIR: Once more I must request a place in the *Gazette* to repel an attack made upon me by the combined forces of the Centre County Agricultural Society and a Mr. Waring, armed with a terrible battery of resolutions. This shall positively be my last article. If my assailants send you another epistle, refer them to the *Farm Journal.* The reasons why my first communication appeared in the *Gazette* are known to you and the *Farm Journal:* All that I have said, (which created so much ire,) simply amounts to a matter of opinion. It is my individual opinion that the Trustees of the Farm School made an injudicious selection in the site for the Farm School—it being deficient of water, which is now proved. The Trustees of the Farm School in return, maintain that they have made a judicious selection. As the location is now permanently settled, it only remains a question of time to decide who was right.

I would not have agitated the question about the Farm School, if the expenses of its establishment had been borne by the State Agricultural Society; in which case they might have used the two thousand dollars received yearly from the State. But the Trustees come before the Legislature, requesting a grant of fifty thousand dollars, to undertake a doubtful experiment, on a soil deficient of water, to test the merits of cistern water over spring water. I believe that that sum might be appropriated in such a way as to prove more beneficial to the farmer. Fifty thousand dollars would establish five farms—what in France are called *Haras*, (established by Government) exclusively kept with improved stock, for copulation; horses, cattle, swine and sheep, from the surrounding farmers, for which they pay a small compensation; thus enabling them to improve their stock, without the necessity of keeping expensive breeders. After so much talk about improving agriculture, such an establishment would be a *real agricultural improvement.* The charge against me that my assertions were made through maliciousness, is false. I am personally acquainted with some of the Trustees. I have full confidence in their honorable and disinterested exertions to promote the interests of agriculture, but being amateur farmers, unacquainted with all the intricacies and difficulties which the *practical farmer* has to encounter, they may have been misled in their zeal. I cannot see how it will affect their honor, (having acted with an honest conviction) if the location does not answer their expectations. I also protest against the charge of entertaining ill-will against Mr. Irwin. He was perfectly right in endeavoring to have his barrens brought under cultivation. In this he acted judiciously.

Mr. Waring wishes to know the name of the gentleman who so minutely visited the ground. In this I cannot satisfy him. I have stated in a former communication, that if Judge Hiester would address me in a private letter, I will give him the fullest satisfaction. Before answering Mr. Waring, I will mention an episode. Some years ago, I intended to take a share in the Dauphin and Susquehanna Coal mines. A scientific mining engineer, fresh from old England, was employed to inspect the mines, and report accordingly. His report was a real catalogue of technical terms, with a flow of fine *theory*—removing *theoretically*, the conglomerate rocks, like cutting dutch cheese. It astonished the mining community. The report appeared to me *too good, too perfect*, to be relied upon. I therefore *took no share* in the mines. Lucky I was. The mines have proved to be a sinking concern ever since. The English engineer's theory has evaporated into the clouds. Mr. Waring's report, so far as it refers to the fertility of the soil, its yield, &c., is no doubt correct, but when it comes to the all-important item of *the water*, it reminds me of the English engineer's report. It is analogous to Mr. Waring's report, who doubtless wishes to astonish the Pennsylvania farmer with his new theory that *cistern water is preferable to the limpid spring water.* It is a fact known to all practical farmers, that cattle will not thrive in summer, even in the richest pastures, unless they have easy access to a full supply of water, whenever they feel the desire. Mr. Waring has not explained how that most important business will be managed, when some eighty head of cattle (necessary to stock a farm of 400 acres) are grazing in those distant fields, away from the farm house, panting for water. How will it be conveyed to them? Can it be done by turning a cock, or by using the chain pump? *Nous verrons.* It would be advisable to sink an artesian well over one of Mr. Waring's subterranean rivers, rushing from the Allegheny mountains. The pressure would be sufficient to force up a column of water one hundred feet high. This would supply the whole farm.

Now, gentlemen of the Centre County Agricultural Society, I never intended any insult to you, nor to the citizens of Centre County—in fact to no one. If, as you say in one of your resolutions, that a more eligible site for the Farm School, cannot be found in the State than the one chosen, the farmers of Pennsylvania will assent to it. They will also relish cistern water of a superior quality, if approved by the medical faculty of Centre County.

*Bethel, Jan.* 1857. H. SHUBART.

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## GREAT NATIONAL TRIAL OF MACHINERY.

We commend the annexed announcement to the attention of the agricultural interests of the country. We have taken occasion in former numbers of the Journal, to speak our sentiments freely upon this subject, believing that such a step as the one proposed is the only one that will ever in any important degree, serve to carry out fully the true intention of awards by agricultural societies. The granting of premiums for articles, possessed of particular merit, is praiseworthy and encouraging, but in order to render it valuable to the recipients, it is absolutely indispensable that a radical change should be made in the present system. To sum the whole matter up in a few words, it has been a complete farce, which we hope never again to see enacted. We are led to hope that this thorough practical test of the value of implements, will not be confined to the United States Society alone, but that every State and County Society in the Union will adopt it also.

*Great National Trial of Machinery and Implements of every description pertaining to Agriculture and Household Manufactures at the Fifth Annual Fair of the United States Agricultural Society, to be held at Louisville, Ky., during the Fall of* 1857.

The Committee of the United States Agricultural Society, appointed at the fifth annual meeting, held at the Smithsonian Institution, in the city of Washington, on the 14th of January, "to designate the time and places and to make all the necessary arrangements for a national trial in the field of agricultural implements and machinery, respectfully invite the inventors and manufacturers of all such articles, both in the United States and foreign countries, to participate in a public trial to be made at Louisville, Kentucky, under the auspices of the society, during the fall of 1857.

This new arrangement for the exhibition of agricultural implements and machinery of all kinds in actual operation results from a conviction on the part of the society, that no just awards can be made except upon a practical working trial before competent judges; and the fullest opportunity will be afforded to test the comparative merits of the various machines, that may be entered as competitors for the awards, both as regards land for field implements and steam powers for stationary machinery.

A separate trial of reapers and mowers will be made at the appropriate season, special arrangements for which, as to time, place, &c., will be announced at an early date.

It is intended that this exhibition shall be on the most extensive scale, for the purpose of testing the working qualities of these important implements more thoroughly than has yet been done on any previous occasion, either in the United States or in Europe.

All articles from foreign countries intended for exhibition may be consigned to the "Agent of the United States Agricultural Society, Louisville, Kentucky," by whom they will be received and stored free of charge.

This brief announcement of the proposed trial is made at this early date to afford the most ample time for the preparation and transmission of machinery. A circular containing full particulars as to regulations, premiums, &c., will be issued as soon as prepared by the committee, and will be forwarded to persons who may apply to the Secretary, Henry S. Olcott, American Institutes, New York.

To enable the Society to make arrangements on a sufficiently liberal scale, it is requisite that the committee should know what articles will be offered for competition; and they therefore request those inventors and manufacturers who may be disposed to unite in the proposed trial to communicate their intentions to the Secretary at their earliest convenience.

*Committee on Implements and Machinery of the United States Agricultural Society.*

TENCH TILGHMAN, Oxford, Md., Chairman.
JOHN D. LANG, Vassalboro, Maine.
J. T. WARDER, Springfield, Ohio.
G. E. WARRING, Jr., American Institute, N. Y.
HENRY S. OLCOTT, Westchester F. School, N. Y., Sec.
*Washington*, Jan. 16, 1857

# Monthly Comments.

*Rose Cottage, La.*, Dec. 1856.

The New Year will have dawned upon all your subscribers before these lines shall come before them. If the instruction and pleasure they may have received the past year in the perusal of the "Farm Journal" but equals that I myself acknowledge to have received, then they have reaped a rich harvest in return for their dollar subscription,—a harvest which garnered into the storehouse of their memory, is always ready to furnish food for reflection, and practical good to the whole family household.

Let each subscriber furnish to his agricultural paper *his* mode of farming and general management of the farm. Let no fear of ridicule deter the communication from being made. It may be the means of spreading much useful information, and correcting errors in the farming of many who would be glad to know wherein they err.

The December number of the Farm Journal argues well for the incoming year, and proves that agricultural papers are progressive, as they always should be. The articles are numerous, and generally good.

True Economy in Seed.—This article needs no praise; it is every word "gospel truth" to farmers, who will do well to attend to it and profit.

Canada Thistles and other Noxious Weeds.—Good advice. Cut all weeds before seeding, and compost them.

Does Caustic Lime affect Farm-Yard Manure, or Guano?—Lime should never be used in combination with highly concentrated manures—such as guano, farm-yard dungs, &c.; the effect of caustic lime so used is to drive off the ammoniacal gases. If it is absolutely necessary to apply both during the same year, let the intervening periods of application be as long as possible.

Guano.—Some persons have met with disappointment in the expected results from the use of guano. Experiments are varied by attending circumstances. *If* "T" finds the increase of yield from applying guano pay for the manure and a profit beside, he is justified in using it, *provided it does not leave the land in any worse condition than before the guano was applied.* Some lands reap a two years' benefit from one application of guano, while some, though yielding an increase the first crop after guano, do not give as good a crop the second year as before the guano was applied. The opinions in regard to the permanent benefit of guano are nearly unanimous in deciding its benefit temporarily. It is well to consider, whether by farm-yard manure, composts, *green crops for fodder and turning under*, and *soiling*, equal and more lasting benefit cannot be had, than from an equal or even *greater* expenditure of means in guano.

Dwarf Pear Trees.—My own experience is not sufficient to give a decided opinion on the merits of this variety of fruit trees. A difference of opinion exists, which it does not seem easy to settle. The truth is, *all* fruit trees well attended to, prove profitable; but there are many persons who think they ought to do well and prove a source of revenue *without any care.*

Blood as a Manure, and the following article on Bones versus Guano, are both truthful. The latter article demands the farmer's consideration.

Profits on Pigs and Poultry.—If every farmer kept an account of debit and credit for every article and animal used and raised on his farm, he might find some results similar to those of Milner's case. This is the proper mode of doing on all farms, that the sources of profit and loss may be known to the owner.

Cashmere Goats.—These animals may yet prove a profitable stock to American farmers.

Chinese Sugar Cane.—The results in Louisiana, as far as I have seen and heard of, are unfavorable. Further attention may develope more light. It may do in small quantities for making home stock of molasses, but I doubt its superceding the sugar cane now used here, or the practicability of raising a large crop for sugar with profit. Our sugar rolling varies from two to three months, from the first cutting of the cane. The sugar millet will not yield saccharine matter, after being *ripe*, for such a length of time; and five hundred or a thousand acres could not be rolled up in less than two or three months.

What shall be done with the Mice?—Echo answers, What? Suppose every reader of the Farm Journal send to the Editors his mode of dealing with them, we may find a remedy. Or shall we all join in subscribing to a premium to be given to the best plan; said plan to be submitted to a committee appointed by the editors, the successful essay or plan to get the premium. Let each subscriber to the Farm Journal, and any others who may choose, send one dime only to the Editors to constitute a purse to purchase a premium, to be given to the one who may propose the best plan for exterminating the field mice. The premium to be either agricultural books, or some implement pertaining to the farm.

The hints on the Management of Farm Stock are good. Gentleness with the brute creation, as with man, is always the best.

Dioscorea Batatas.—I believe farmers, who want to save their time and money, had better let this vegetable alone. I think it a humbug.

Temperature of the Stable.—An excellent article. The matter is one much neglected, sometimes to the severe loss of the farmer.

Improved Breeds of Cattle necessitate improved Systems of Husbandry.—This is true, as can be daily seen. There are many persons who buy fine stock and treat them in the same way they have always done their old stock. The consequence is degeneration ensues, and the purchaser blames the breed and not himself. I bought a native cow here improved by one cross, (Devon.) and paid fifty dollars for her three years and a half ago. She has been fed upon green food, pumpkins, corn crushed, and hay; housed in winter and bad weather, and kept clean. She has not had a calf for seventeen months; and yields milk sufficient for my family, and we make some butter from it also. She now gives nearly two gallons a day. I have sold her, deliverable in the spring, (when I move to Maryland,) for eighty dollars. About the same time, a gentleman here bought a pure Durham cow, which was fed on everything, and nothing as his other cows were, and exposed to every kind of weather, has depreciated from a hundred dollar cow down to twenty-seven dollars, at which price she sold lately. When a man purchases a fine house he buys suitable furniture to put in it, and does not use his old broken furniture.

If it pays to farm and attend to the various branches of husbandry, it certainly pays best to give the best attention to every part of the business. This is the commencement of a new year, suppose you who have been hitherto remiss in your farm duties, turn over a new leaf. *Begin right*, and all will go smooth afterwards. Attend to your business, keep everything in order, and recollect the *best* is always the cheapest.

H. H.

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## MANAGEMENT OF DAIRY CATTLE.

In the first place it is necessary to have a comfortable stable for the night, and a well sheltered place, both from the falling weather and cold winds during the day. The feeding should be regular and judicious, the yard should have a good supply of clean fresh water, rock salt and burned and pounded bones in a box, convenient for the cattle to supply themselves with phosphatic matter, which is frequently deficient in the food they consume, to such an extent, as to drive cattle to pick up raw bones and chew them for hours, at a loss of time when they ought to eat vegetable matter, and at a risk of their lives.

I find a southern exposure of a barn, a cattle or dung-yard, with a ten foot board fence and chicken house, to keep off the west and north-west winds, a pig house, and high gate, to keep off the east and north-east winds, and a wall on the south, four or five feet high, with a rail fence on top, shelter for the cattle to keep dry, a fountain of running water, a lump of rock salt, and a supply of phosphatic matter in a vessel, (both salt and burned bones under the overshot,) and the yard well covered all over, with leaves, straw or any vegetable matter fit for manure, or even good alluvial earth, to absorb the excrements which the cattle drop, and plenty of straw, &c., for the cattle to pick at during the day, an excellent outside arrangement, both for the cattle's comfort and the increase of the dung heap.

I also find cornfodder well cut and crushed, mixed with some meal or bran, and scalded in a large trough, fed to dairy cattle, with a change of hay and roots once or twice a week, the cattle well bedded, and curried well once a day, kept clean like a horse, will secure a good flow of milk and an excellent quality of butter.

It is impossible, that cattle carelessly fed on dry fodder only, and badly attended to, will pay for their keeping; both the dairy product and the manure are of an inferior quality, and in small quantity. Cattle will take care of their keeper in proportion as he takes care of them.

J. S. Keller.

*Orwigsburg, Feb. 9th*, 1857.

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Mr. Morton, the agricultural essayist, gives the following remedies for destroying the turnip-fly, as employed by two eminent practical farmers, Messrs. Dickson and Hobbs:—The former took some road-dust, some soot, and a little guano, and mixing these together sowed them along the rows in the middle of the day. In a short time he found that the crowds of flies had altogether disappeared. Mr. Fisher Hobbs has long used a mixture of a similar sort, only he employs a little sulphur instead of guano; and thinks it better to apply it in the night season, when dew has fallen, than in the day time. Either system is likely to be effective, and it is well that farmers should know how simple a cure they have at their command for this pest.

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James Thornton, Jr., of Byberry, 24th Ward, planted one and one-eighth acre of old corn ground with the California or Black Mercer potato, last spring. The potatoes were planted every other furrow, and manured in the row. On digging in the fall, the produce was 490 bushels, or about 400 bushels per acre! Some of the potatoes weighed two pounds and six ounces. Most of the crop has been sold, averaging, large and small, about seventy cents per bushel.

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Poultry intended for market should always be "dry picked," as they keep better when dressed in this way.

## A COUNTRY LIFE.

BY JOHN H. BAZLEY.

In towns and cities, thousands live,
Seeking for something which will give
Large pay for little toil,
They strain their wits, distress their minds,
And call him smart or great who finds,
Some new way to despoil.

How strange! that men of goodly parts,
Will condescend to meanest arts,
In trying to get cash;
Will shave and cheat and swindle too,
Without regard to me or you,
So they may cut a dash.

Why is it so? what mania fills,
Their silly heads, and perverse wills,
That thus they chase the wind;
Losing their healths and manly minds,
Loosing each tie and grace that binds
Us mortals to our kind?

O blessed is a country life,
Far, far away from noise and strife,
In some secluded spot,
Where killing care are seldom found,
Where peace and plenty most abound,
And friends are ne'er forgot.

Labor is God's command to man,
Happy are they who do, and can,
Obey the great intent:
No artificial wants they'll crave,
Few sleepless nights, no thoughts which rave,
But rest in sweet content.

The flocks and herds in fields and groves,
Lie down to rest, or feed in droves,
Conscious that God is there;
The herbs, plants, shrubs, around us rise,
Sweet flowers send incense to the skies,
While fruit trees bloom and bear.

Nature's domains a concert hall,
Where birds with songs, and caw, and call
Invoke the Deity,
The ploughman whistles o'er the land,
The milkmaid singeth blithe and bland
In sweet simplicity.

O give me then a country life,
Far, far away from pride and strife,
Where happiness is found.
My wishes moderate and wise
My passions tamed in modest guise,
And all by love is crowned.

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### PLOWS, CULTIVATORS, KNOX'S HORSE HOES, &C.

A large and varied assortment of Plows, Cultivators, Horse Hoes, and all other kinds of Agricultural Implements, constantly on hand, and for sale at the lowest cash prices.

Paschall Morris & Co.,
N. E. cor. 7th & Market Sts., Phila.

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### GRASS SEEDS! GRASS SEEDS!

Clover, Timothy, Green Grass, Orchard Grass and Red Top, &c., all of prime quality; on hand and for sale by,

Paschall Morris & Co.,
N. E. cor. 7th & Market Sts., Phila.

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MAKE HONEY AND THEREBY MONEY. Since the days of Aristotle, 2200 years ago, mankind have been seeking for a properly constructed Hive and a rational system of managing the Bee. Without exception, every effort has proved a failure, until the Rev. L. L. Langstroth, of Philadelphia, introduced his movable Comb Hive. As none should purchase a Hive unless he examines into its character, this advertisement is intended only to call attention of Bee keepers to it. Mr. Langstroth has in Press the 2d edition of his work on the Bee, 500 pages, with many costly engravings, which will be ready to mail in a few days.

**A PROPOSITION!**—I will send the book to any order containing 25 cents, (the late law rendering compulsory the pre-payment of postage,) to pay postage: if the Book meets the approval of the recipient, he may remit me the price $1 25; if the contrary, the book may be returned to me, and I will reimburse the postage both ways. I have published a small but important work on the Bee, &c., which I will forward on the receipt of 6 cents or two stamps.

Individual rights to make and use the Hive, with Drawings of Five Classes of Hive, costing from 50 cents to $5, accompanied with Bill of Stock, &c., $5. Township, County, and State Rights sold low.

P. J. MAHAN, Apiarian.
Mar.—3t No. 186 Chestnut Street, Phila.

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### MORRIS NURSERIES,

J. L. DARLINGTON & CO., Proprietors.

We offer for the Spring demand our usual large assortment of Fruit and Ornamental Trees, Shrubbery, Roses, &c., &c. The fruit department consists of all the leading varieties of Apples, Stand and Dwarf; Cherries, Stand and Dwarf; Pear, Stand and Dwarf. 20,000 Peach Trees, well grown, fine and thrifty. Also, a fine stock of Apricots, Nectarine, Currants, Gooseberries, Native and Foreign Strawberries, Raspberries, Rhubarb, Asparagus, Grapes, &c., &c. The ornamental department is very full, having spared neither money or labor to get up a stock to suit the wants of the public. We grow a large quantity of Oaks, Walnut, Maples, Ash, Lindens, Horse Chestnuts, Beech, Paulonias Poplars, Magnolias; also, Norway Firs, Balms, Austrian Pines, Spruce, White Pines, Junipers-arborvitæ for planting in masses, making screens or hedges, and a large lot of the finer and rarer trees for Parks, Cemeteries, Lawns, &c., &c.

Persons about planting new places either with fruit or ornamental trees would do well to call on or address the proprietors. For further particulars we refer to our Catalogue, which will be sent to all applicants. Terms cash, or a responsible reference in Philadelphia. Address,

J. L. DARLINGTON & CO.,
Feb—tf *West Chester, Pa.*

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### GARDEN SEEDS! GARDEN SEEDS!

A large and fresh supply of new and genuine Garden Seeds of every variety.

Paschall Morris & Co.,
N. E. cor. 7th & Market Sts., Phila.

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### A FEW BERKSHIRE PIGS,

AND SOUTH DOWN SHEEP,

Of superior quality, for sale by
JAMES THORNTON, Jr.
Byberry, Philadelphia.
Jan—3t

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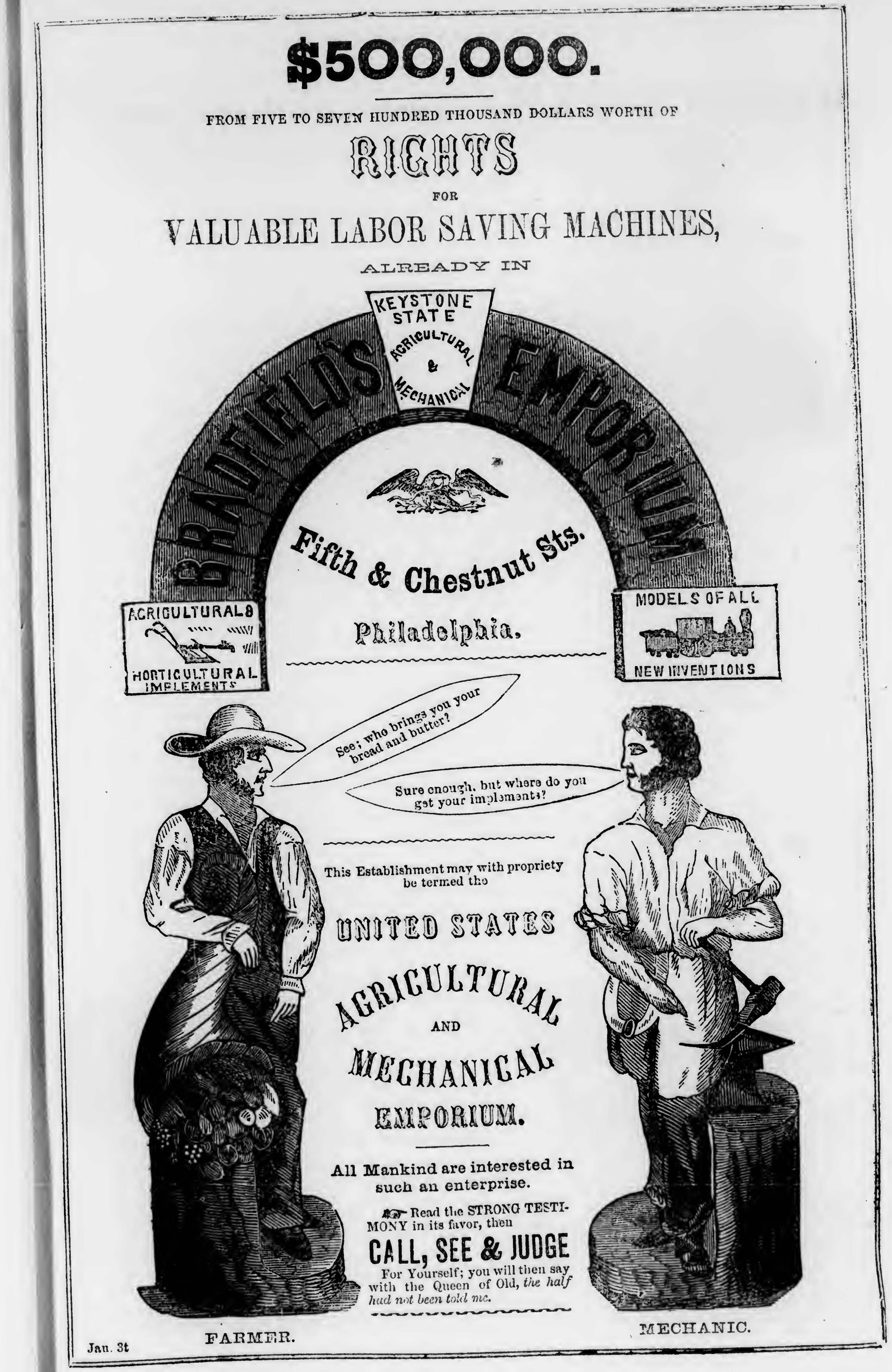
BRADFIELD'S EMPORIUM
KEYSTONE STATE
AGRICULTURAL & MECHANICAL
AGRICULTURAL & HORTICULTURAL IMPLEMENTS
MODELS OF ALL NEW INVENTIONS
See; who brings you your bread and butter?
Sure enough, but where do you get your implements?

# $500,000.

FROM FIVE TO SEVEN HUNDRED THOUSAND DOLLARS WORTH OF

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FOR

VALUABLE LABOR SAVING MACHINES,

ALREADY IN

Fifth & Chestnut Sts.

Philadelphia.

This Establishment may with propriety be termed the

UNITED STATES

AGRICULTURAL

AND

MECHANICAL

EMPORIUM.

All Mankind are interested in such an enterprise.

☞ Read the STRONG TESTIMONY in its favor, then

**CALL, SEE & JUDGE**

For Yourself; you will then say with the Queen of Old, *the half had not been told me.*

FARMER. MECHANIC.

Jan. 3t

## A COUNTRY LIFE.

BY JOHN H. BAZLEY.

In towns and cities, thousands live,
Seeking for something which will give
Large pay for little toil,
They strain their wits, distress their minds,
And call him smart or great who finds,
Some new way to despoil.

How strange! that men of goodly parts,
Will condescend to meanest arts,
In trying to get cash;
Will shave and cheat and swindle too,
Without regard to me or you,
So they may cut a dash.

Why is it so? what mania fills,
Their silly heads, and perverse wills,
That thus they chase the wind;
Losing their healths and manly minds,
Loosing each tie and grace that binds
Us mortals to our kind?

O blessed is a country life,
Far, far away from noise and strife,
In some secluded spot,
Where killing care are seldom found,
Where peace and plenty most abound,
And friends are ne'er forgot.

Labor is God's command to man,
Happy are they who do, and can,
Obey the great intent:
No artificial wants they'll crave,
Few sleepless nights, no thoughts which rave,
But rest in sweet content.

The flocks and herds in fields and groves,
Lie down to rest, or feed in droves,
Conscious that God is there;
The herbs, plants, shrubs, around us rise,
Sweet flowers send incense to the skies,
While fruit trees bloom and bear.

Nature's domains a concert hall,
Where birds with songs, and caw, and call
Invoke the Deity,
The ploughman whistles o'er the land,
The milkmaid singeth blithe and bland
In sweet simplicity.

O give me then a country life,
Far, far away from pride and strife,
Where happiness is found.
My wishes moderate and wise
My passions tamed in modest guise,
And all by love is crowned.

---

### PLOWS, CULTIVATORS, KNOX'S HORSE HOES, &C.

A large and varied assortment of Plows, Cultivators, Horse Hoes, and all other kinds of Agricultural Implements, constantly on hand, and for sale at the lowest cash prices.

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### GRASS SEEDS! GRASS SEEDS!

Clover, Timothy, Green Grass, Orchard Grass and Red Top, &c., all of prime quality; on hand and for sale by,

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MAKE HONEY AND THEREBY MONEY. Since the days of Aristotle, 2200 years ago, mankind have been seeking for a properly constructed Hive and a rational system of managing the Bee. Without exception, every effort has proved a failure, until the Rev. L. L. Langstroth, of Philadelphia, introduced his movable Comb Hive. As none should purchase a Hive unless he examines into its character, this advertisement is intended only to call attention of Bee keepers to it. Mr. Langstroth has in Press the 2d edition of his work on the Bee, 500 pages, with many costly engravings, which will be ready to mail in a few days.

**A PROPOSITION!**—I will send the book to any order containing 25 cents, (the late law rendering compulsory the pre-payment of postage,) to pay postage: if the Book meets the approval of the recipient, he may remit me the price $1 25; if the contrary, the book may be returned to me, and I will reimburse the postage both ways. I have published a small but important work on the Bee, &c., which I will forward on the receipt of 6 cents or two stamps.

Individual rights to make and use the Hive, with Drawings of Five Classes of Hive, costing from 50 cents to $5, accompanied with Bill of Stock, &c., $5. Township, County, and State Rights sold low.

P. J. MAHAN, APIARIAN.
Mar.—3t No. 186 Chestnut Street, Phila.

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### MORRIS NURSERIES,

J. L. DARLINGTON & CO., Proprietors.

We offer for the Spring demand our usual large assortment of Fruit and Ornamental Trees, Shrubbery, Roses, &c., &c. The fruit department consists of all the leading varieties of Apples, Stand and Dwarf; Cherries, Stand and Dwarf; Pear, Stand and Dwarf. 20,000 Peach Trees, well grown, fine and thrifty. Also, a fine stock of Apricots, Nectarine, Currants, Gooseberries, Native and Foreign Strawberries, Raspberries, Rhubarb, Asparagus, Grapes, &c., &c. The ornamental department is very full, having spared neither money or labor to get up a stock to suit the wants of the public. We grow a large quantity of Oaks, Walnut, Maples, Ash, Lindens, Horse Chestnuts, Beech, Paulonias Poplars, Magnolias; also, Norway Firs, Balms, Austrian Pines, Spruce, White Pines, Junipers-arborvitæ for planting in masses, making screens or hedges, and a large lot of the finer and rarer trees for Parks, Cemeteries, Lawns, &c., &c.

Persons about planting new places either with fruit or ornamental trees would do well to call on or address the proprietors. For further particulars we refer to our Catalogue, which will be sent to all applicants. Terms cash, or a responsible reference in Philadelphia. Address,

J. L. DARLINGTON & CO.,
Feb—tf *West Chester, Pa.*

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### GARDEN SEEDS! GARDEN SEEDS!

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### A FEW BERKSHIRE PIGS,

AND SOUTH DOWN SHEEP,

Of superior quality, for sale by

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Byberry, Philadelphia.
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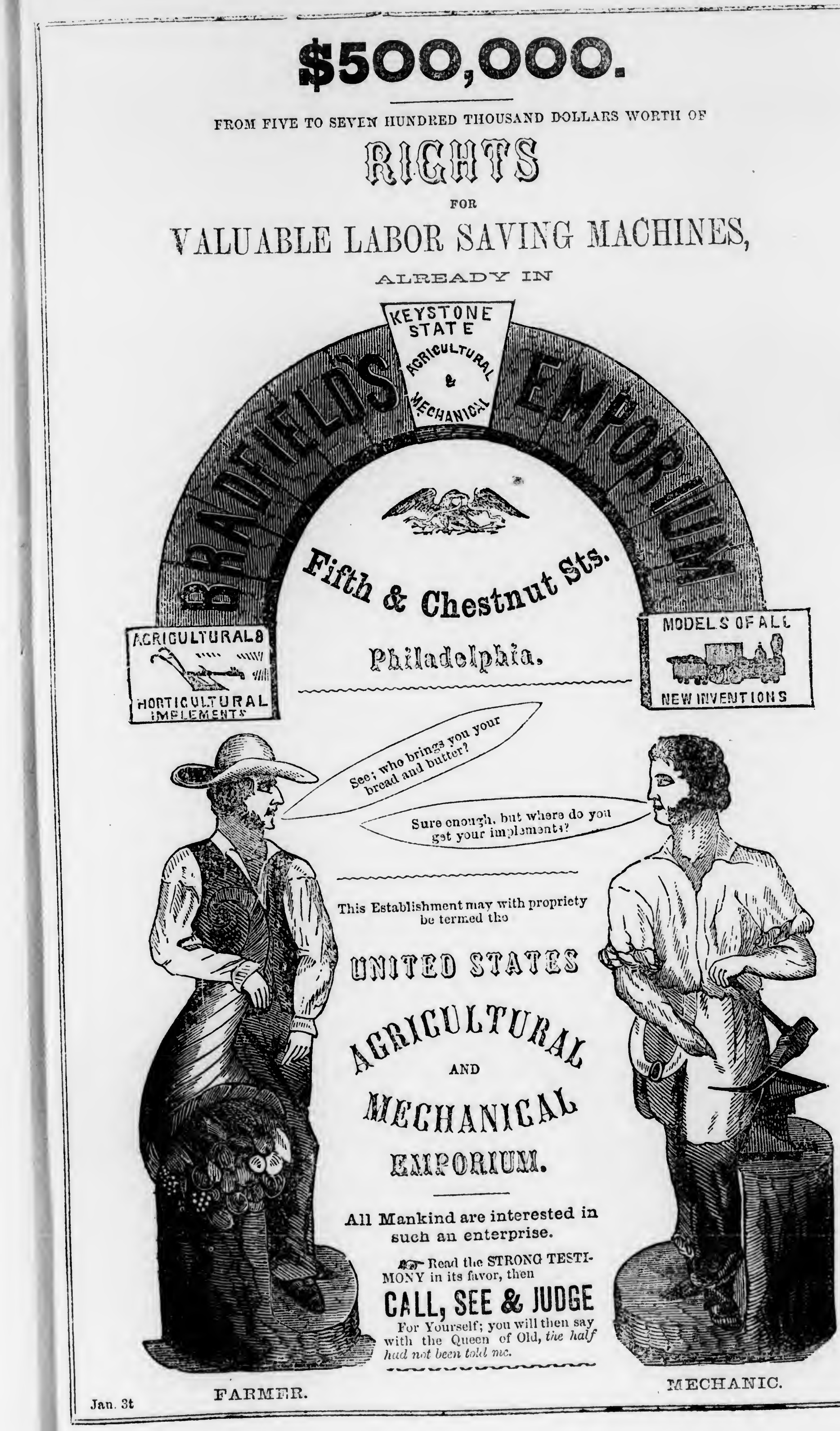

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ALREADY IN

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AGRICULTURAL & MECHANICAL
BRADFIELD'S EMPORIUM
Fifth & Chestnut Sts.
Philadelphia.
AGRICULTURAL & HORTICULTURAL IMPLEMENTS
MODELS OF ALL NEW INVENTIONS
See; who brings you your bread and butter?
Sure enough, but where do you get your implements?

This Establishment may with propriety be termed the

UNITED STATES AGRICULTURAL AND MECHANICAL EMPORIUM.

All Mankind are interested in such an enterprise.

☞ Read the STRONG TESTIMONY in its favor, then

**CALL, SEE & JUDGE**

For Yourself; you will then say with the Queen of Old, *the half had not been told me.*

Jan. 3t

INTENTIONAL SECOND EXPOSURE

# COLEMAN'S FARM MILL

This is the most efficient, simple and durable FARM MILL now in use, and it precisely meets the wants of the farmer, as it is not only adapted to

**GRINDING CORN IN THE EAR,**

but will grind with rapidity

**SHELLED CORN, WHEAT, RYE OR OATS,**

*Fine or Coarse Meal, or Superfine Flour*, if required. It is easily attached to horse or any other power, and will *grind from EIGHT TO FIFTEEN BUSHELS PER HOUR*, according to power and speed. This Mill is constructed on an entire *new principle*, which has never been used, so that it can be run for years without any perceptible wear. In fact, it has proven itself to be the only efficient and DURABLE mill now in use. We invite farmers and dealers to call at our Seed and Agricultural Warehouse, **No. 29 Market street, Philadelphia,** and see one in operation. This Mill has received the following premiums:

1st Premium at the Delaware State Fair, 1856.
1st do. do. Chester Co., Pa., Fair, do.
1st do. do. Berks do. do. do.
1st do. do. York do. do. do.
1st do. do. Franklin do. do. do.
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☞ All Mills sold are warranted to give satisfaction. We are manufacturing three different sizes. Prices—No. 1, for hand power, $10.00; No. 3, for two-horse power, $50.00; for steam or water power, No. 4, $60.00. A liberal discount made to dealers.

ROGERS & BOYER,
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# GRASS SEEDS.

200 Bushels Prime Green or Native Grass Seed.
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# CORN SHELLERS.

Rogers & Boyer have now in store a large assortment of heir premium

**GOTHIC CORN SHELLERS,**

and are prepared to furnish them Wholesale and Retail on the most favorable terms.

ROGERS & BOYER,
*Seed and Agricultural Store,*
Jan—tf No. 29 Market Street, Philadelphia.

IMPROVED FARM WAGON.—Farmers will take notice that the **PATENT DUMPING or TIPPING FARM WAGON**, alluded to in the January No. of the "Farm Journal," under the head of Farmers' Note Book, is manufactured and for sale by the Patentee, THOMAS CASTOR, Frankford, Pa. Also, Rights for States, Counties, Townships, or for a specified number of Wagons, may be obtained on reasonable terms. In consequence of the increased demand for these desirable Farm Wagon, the manufacturer has recently rebuilt his establishment on an enlarged plan, thereby enabling him to fill all orders with promptness and despatch. Prices range from $100 to $130, according to size. Feb—3t

# SICK AND AFFLICTED.

## DR. SWAYNE,

Believing it inconsistent with sound principles to recommen one medicine for every disease, has prepared those suitable to meet every case. Dr. Swayne's Compound Syrup of Wild Cherry, for all diseases of the Pulmonary Organs, Throat, Breast and Lungs, has performed many astonishing cures. Dr. Swayne's Sugar Coated Tar Pills cleanse the Bowels, restore the Liver and Bilious Secretions to a healthy condition. Dr. Swayne's Vermifuge for the destruction of Worms, Dyspepsia, &c Dr. Swayne's Catholicon, a valuable Bitters for Weakness, Dyspepsia, to build up the old, the feeble, the debilitated, the depressed in spirits, &c. Dr. Swayne's Fever and Ague Pills, sure cure, 50 cts. a box. Dr. Swayne's Panacea cures Scrofula; great Blood Purifier. Dr. Parris' Soothing Syrup for Children Teething, gives instant relief by rubbing on the gums. Dr. Swayne's Bowell Cordial, for all Bowell Complaints. Dr. Swayne's All-healing Ointment cures all Eruptions.

## Another Astonishing Cure,

*By Dr. SWAYNE'S Compound Syrup of Wild Cherry.*

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DR. SWAYNE,—Dear Sir: Believing it a duty I owe to the public, and in justice to you, I have thought proper to make known one of the most extraordinary cures, in my own case, that has ever been truly recorded. In the month of October last I was afflicted with a severe gathering in my breast, which formed a large abscess, and also communicated to my Lungs and very much afflicted them, and discharged large quantities of corruption, external and internal. My breath could also pass through my Lungs and out through the cavity of my breast with apparent ease, attended with a violent cough, day and night, loss of appetite and extreme debility, so that my physicians thought my case entirely hopeless and beyond the power of medicine. I remained in this wretched condition for a long time, until I was wasted to a mere skeleton, and there seemed to be no hope for me; but having read in the public papers of the many wonderful cures performed by your COMPOUND SYRUP OF WILD CHERRY, I commenced its use, and to my great satisfaction and to my anxious family's, the abscess or opening in my lungs began to heal, and the cough subside, and on using ten bottles I was restored to perfect health. I feel very grateful, and firmly believe, that to your valuable medicine, under the blessings of Divine Providence, I am indebted for this great change, and I am happy to say that I am now enjoying as good health as I ever have.

Over five years have elapsed, and I still remain a perfectly hearty man at this date, June 2d, 1856 I have not had a day's sickness for the last eighteen months. Please accept my grateful acknowledgments. Yours, very respectfully,

THOMAS DIXON.

The subscriber is well acquainted with Thomas Dixon, and can testify that he has been afflicted as above represented. I regard his recovery almost as a miracle. He is a worthy member of our Society. JAMES R. BURBOROW,
Pastor of Berlin Circuit, Baltimore Conference.

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Jan—1yr

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A full description of these useful and beautiful hedges, with directions for planting, trimming, &c., will be cheerfully given by addressing as above. Jan—tf

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*Pleasant and Profitable Employment.*—Young men in every neighborhood may obtain healthful, pleasant and profitable employment by engaging in the sale of our useful and popular books, and canvassing for our popular Journals. For terms and particulars, address, post paid, FOWLER & WELLS,
No. 308 Broadway, New York.

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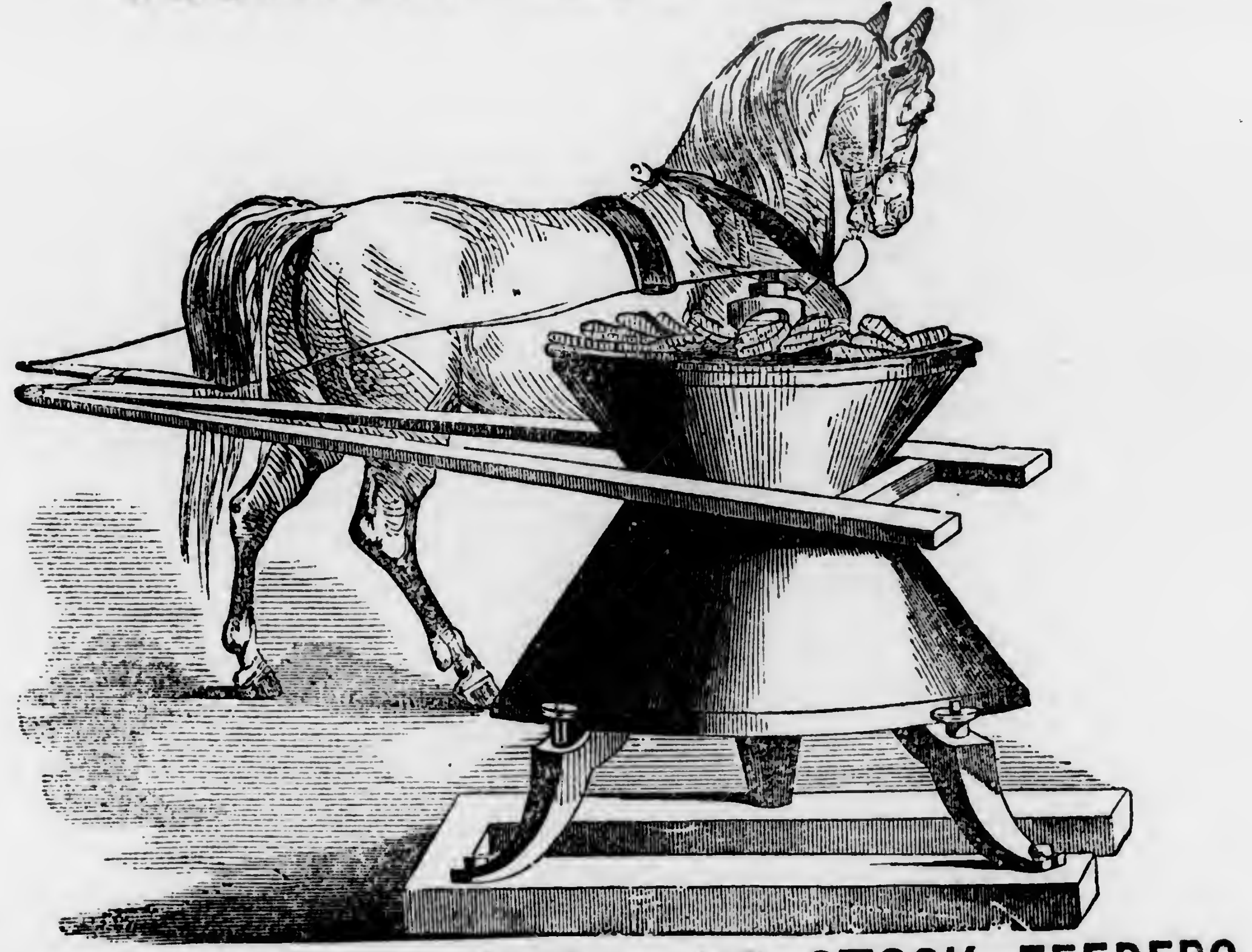

## TO PLANTERS, FARMERS AND STOCK FEEDERS.

Your attention is called to this celebrated Mill, which has received the approbation of the public at the various State and County Fairs, 1856, and which has taken the first Premium over all other Mills at the following State and County Fairs:

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The construction of this Mill, and which renders it superior to others, are these:—It grinds Corn and Cob finer, requires about one-half the amount of power of other Mills, and by the use of Friction Rollers at the base of the outer Shell, it prevents the fine teeth coming in contact, (which they do in other Mills); and after YEARS of use, can be repaired at an expense of $3.00, making it equal to a new Mill. It is not injured if worked when empty. These facts and the superior Castings, make this Mill, beyond all doubt, superior to all others.

For further information, apply to the manufacturers,

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**PASCHALL MORRIS & CO.,**
AGENTS FOR THE ABOVE MILL,
Jan. 1y **Corner of Seventh and Market Streets.**

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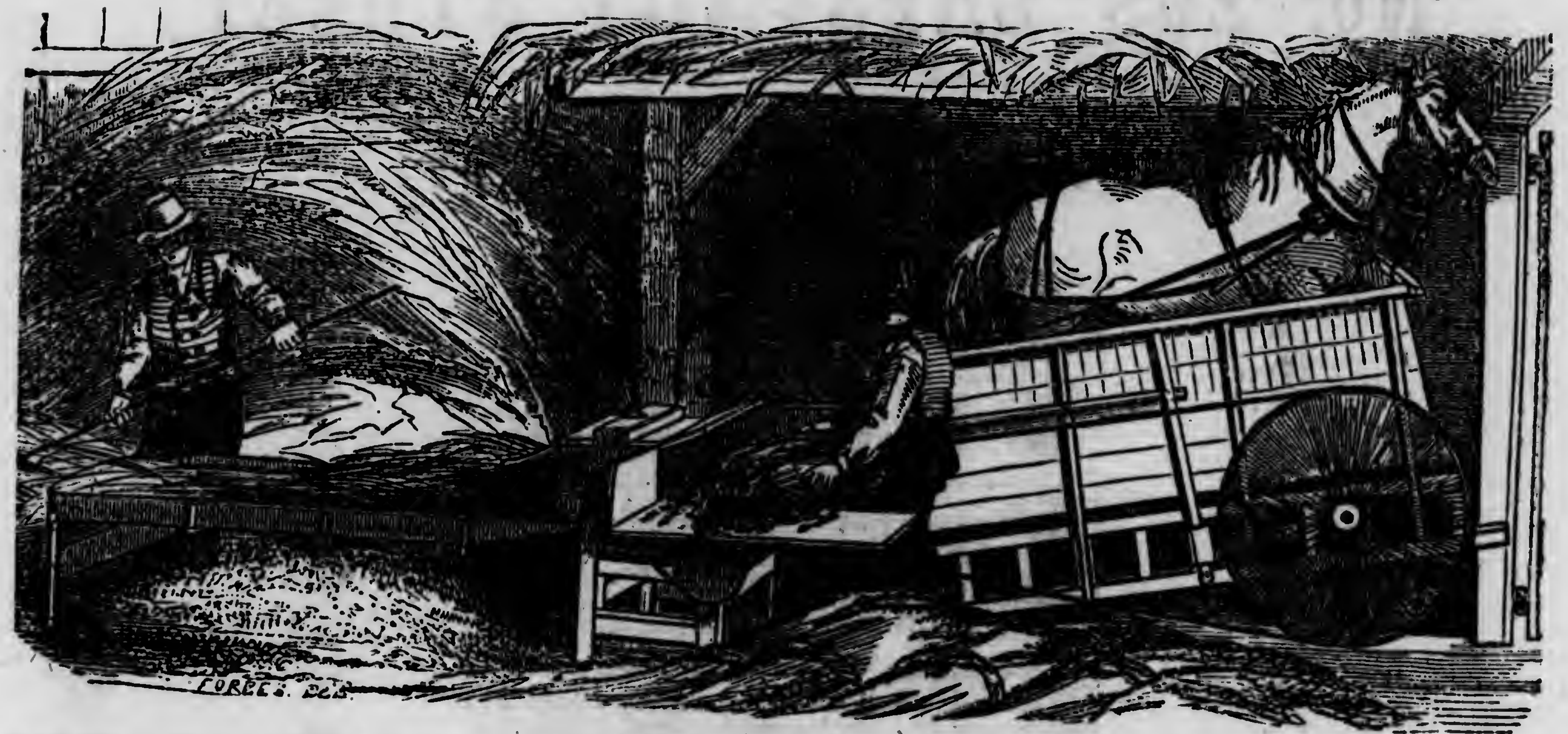
MANUFACTURERS OF WHEELER'S PATENT

RAILWAY HORSE POWER AND OVERSHOT



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The subscribers offer for sale a few bull and heifer calves, the get of ASTORIA, 221, A. H. B., and of LORD VANE TEMPEST, 2d, 669, A. H. B., together with a number of cows and heifers.

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WHITE GRAPE CURRANT SEEDS, saved from our specimen plants in 1856, will be sent prepaid, in packages worth $1.00, to all who enclose that amount.

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ELWANGER & BARRY,
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Elwanger & Barry, having an immense stock of Norway Spruce, offer them in quantities at the following very low prices—all transplanted, strong and bushy plants:

5 feet $50 per 100—$100 per 1000
4 " 30 " " 250 " "
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Wholesale Catalogue for Spring of 1857 now ready, sent to all who enclose a postage stamp.

ELWANGER & BARRY,
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What lady or gentleman would remain under the curse of a disagreeable breath, when by using the "BALM OF A THOUSAND FLOWERS" as a dentifrice would not only render it sweet but leave the teeth white as alabaster? Many persons do not know their breath is bad, and the subject is so delicate their friends will never mention it. Pour a single drop of the "Balm" on your tooth-brush and wash the teeth night and morning. A fifty-cent bottle will last a year.

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SHAVING MADE EASY.—Wet your shaving-brush in either warm or cold water, pour on two or three drops of "BALM OF A THOUSAND FLOWERS," rub the beard well, and it will make a beautiful soft lather, much facilitating the operation of shaving. Price only fifty-cents.

Beware of counterfeits and imitations; none genuine, unless signed by Fetridge & Co., Proprietors, New York.

For sale by all druggists. W. P. FETRIDGE & CO.
Dec—6t Franklin Square, New York.

346 & 148 BROADWAY, New York, October, 1856.

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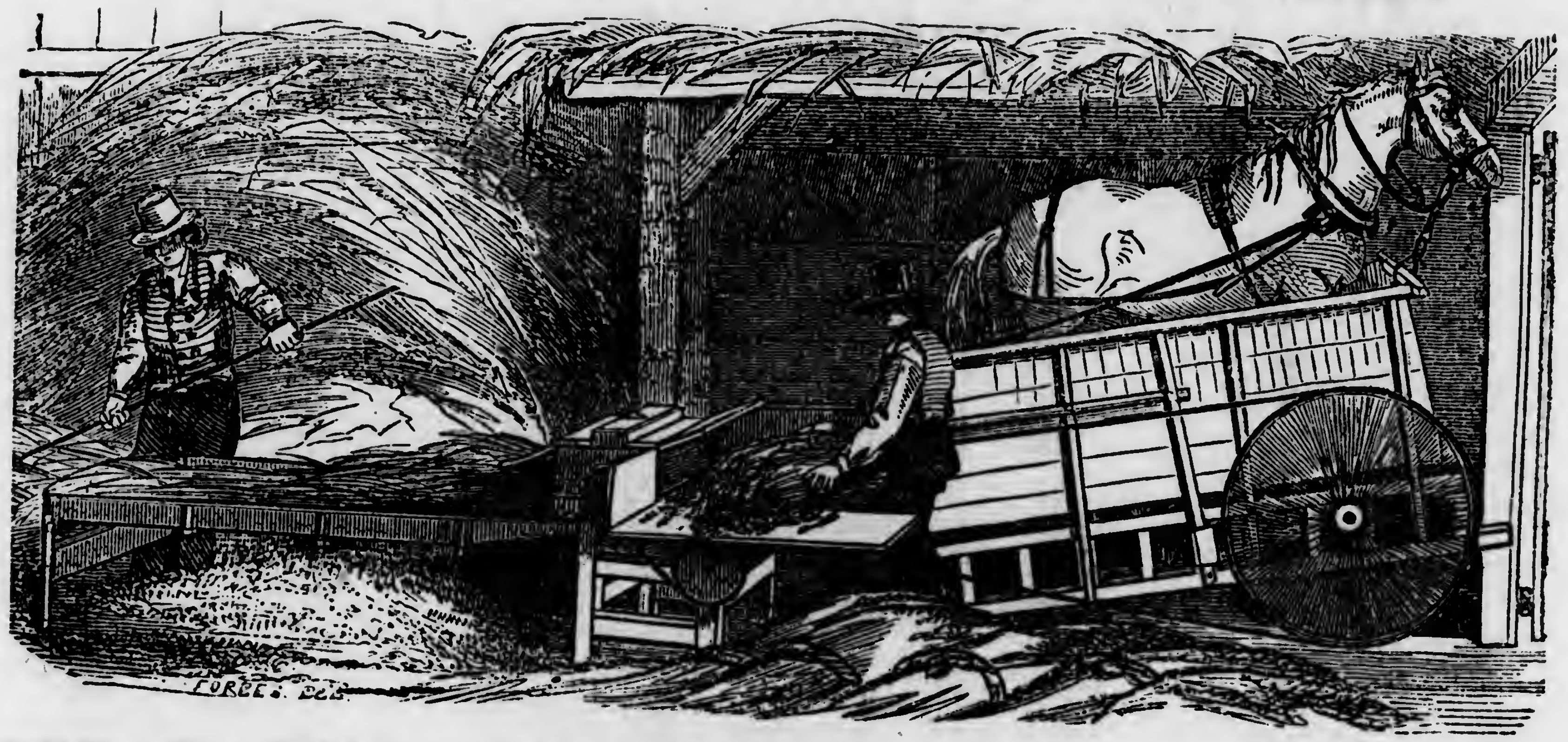

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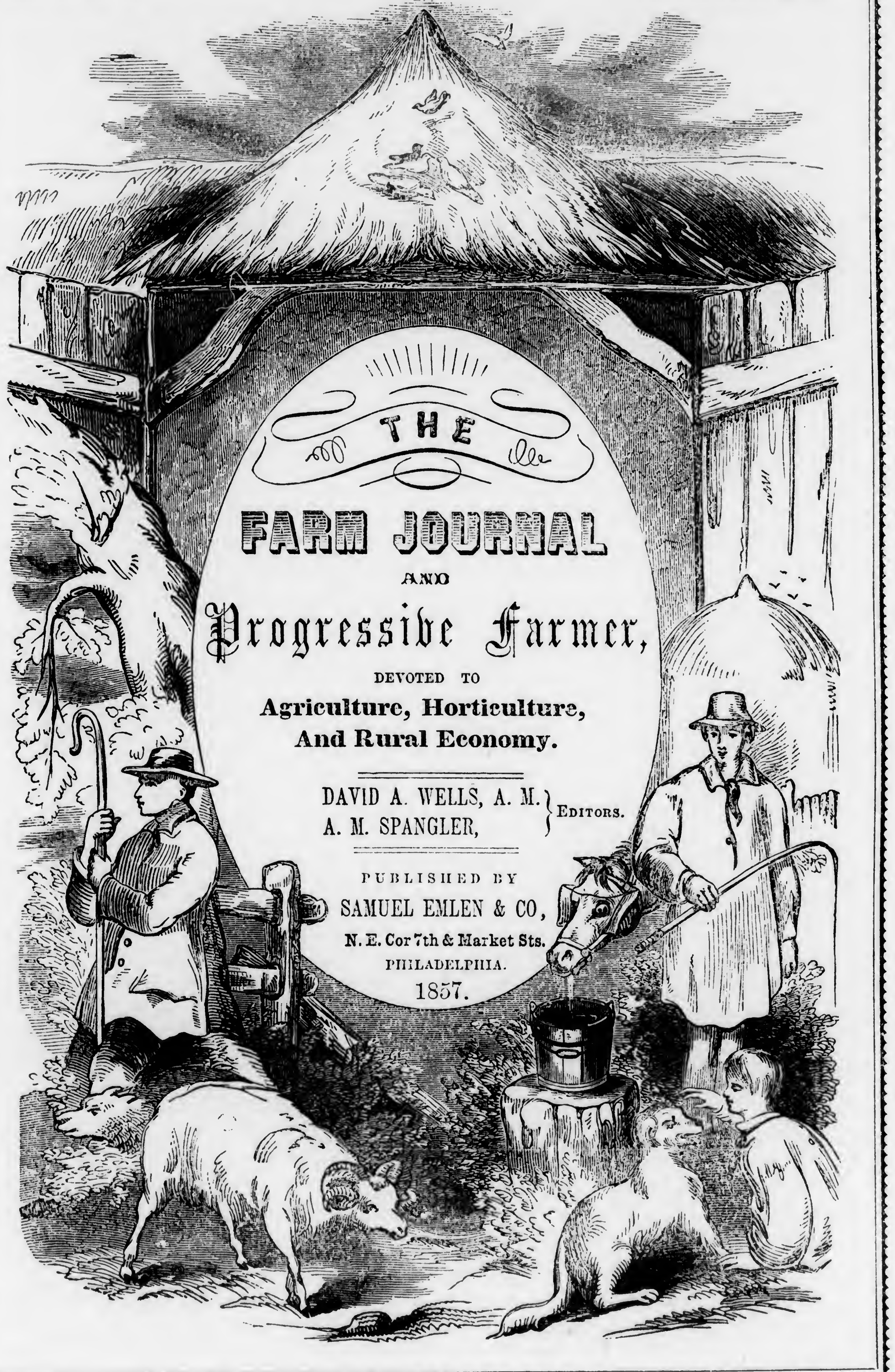

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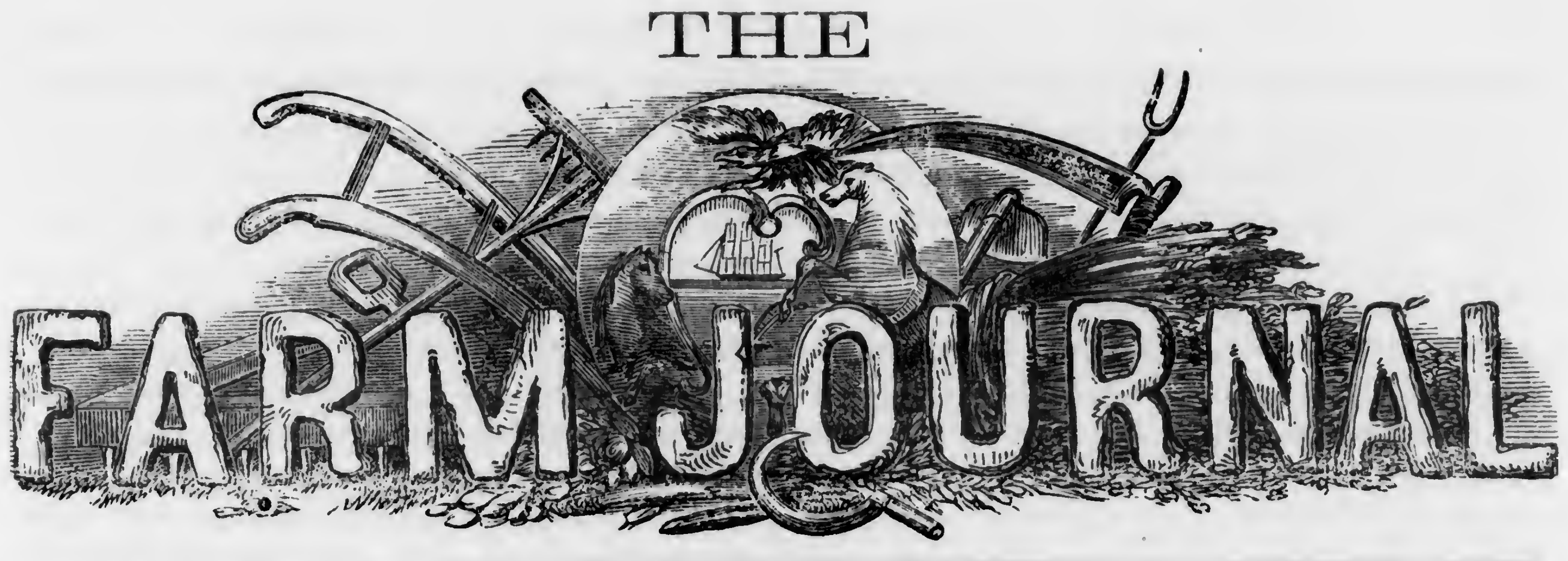

VOL. VII. PHILADELPHIA, APRIL, 1857. No. 4.

For the Farm Journal.

## ON THE DISEASES OF PLANTS.

BY HARLAND COULTAS.

This is one of the most important, but at present, imperfectly understood parts of Botany. It is clear that all scientific treatment of the diseases of plants must be founded on a knowledge of their life processes when in a healthy condition. The physician, in order to be able accurately to distinguish diseases and to prescribe remedies, studies the anatomy and physiology of the human body in its normal or healthy state; and in the same manner it is necessary for the farmer and gardener to familiarize themselves with the structure and functions of the organism of plants, if they would succeed in finding remedies for the diseases which attack those that they cultivate, and prevent their diffusion and development.

Plants, although devoid of the voluntary motion and sensibility of animals, are nevertheless endowed with the same power of nourishing and propagating themselves. Like animals, the functions of their organs are liable to various disturbances through an excess of heat, cold, moisture or dryness, or other unsuitable external conditions.

Almost all the diseases of plants which show themselves outwardly, proceed from disorders which originate in their interior parts. Disease arises in the interior of plants sometimes in consequence of faults in the solid or fluid materials which they assimilate. There may be a superabundance, or a scarcity of sap, or an unhealthy change in its nature resulting from a scarcity of the proper ingredients in the soil necessary to the life of the plant. The last condition of things is undoubtedly the cause of the majority of the diseases to which plants are liable, which are therefore easily cured, because we can readily impart to the soil the material required by the plant, and which when absorbed will gradually induce a healthy condition of its fluids.

In examining and treating the diseases of plants it is necessary to attend not only to the symptoms, but to ascertain as correctly as possible the conditions under which they are developed, so as to arrive at a knowledge of the causes which produce them. Nourishment taken up from the same soil is capable of producing in plants totally opposite effects; in one species a superabundance of sap, in another a scarcity; in both these instances a diseased condition is generated; whilst the same nourishment shall be suited to the organization of a third species and induce its healthy and vigorous growth. It is therefore necessary to obtain an exact knowledge of the soil, the situation, and the cultivation of the diseased plant, and carefully to compare these external circumstances with the conditions to which a sound, healthy plant of the same species has been subjected, if we would form a right judgment as to the cause by which the disease has been produced and the best methods of effecting its removal.

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This outward effusion of sap proceeds from its superabundance. The tissues of the tree are only able to assimilate and take up a certain quantity, and the remainder of the sap forces for itself an outlet through the bark and appears at the surface.

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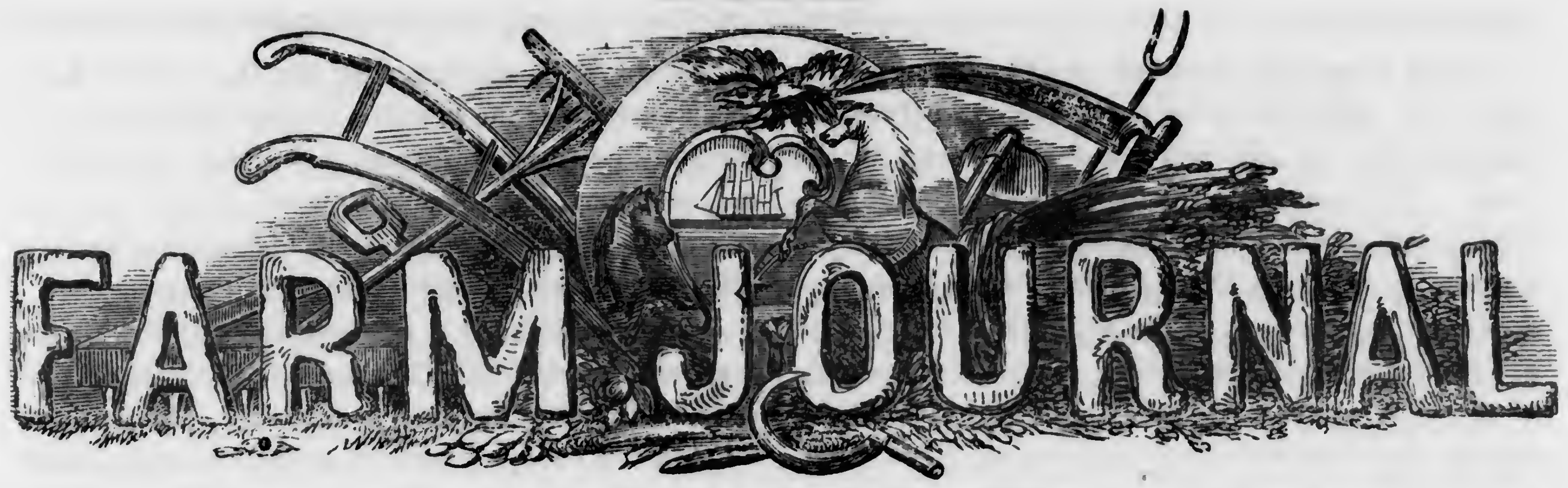


VOL. VII. PHILADELPHIA, APRIL, 1857. No. 4.

For the Farm Journal.

## ON THE DISEASES OF PLANTS.

BY HARLAND COULTAS.

This is one of the most important, but at present, imperfectly understood parts of Botany. It is clear that all scientific treatment of the diseases of plants must be founded on a knowledge of their life processes when in a healthy condition. The physician, in order to be able accurately to distinguish diseases and to prescribe remedies, studies the anatomy and physiology of the human body in its normal or healthy state; and in the same manner it is necessary for the farmer and gardener to familiarize themselves with the structure and functions of the organism of plants, if they would succeed in finding remedies for the diseases which attack those that they cultivate, and prevent their diffusion and development.

Plants, although devoid of the voluntary motion and sensibility of animals, are nevertheless endowed with the same power of nourishing and propagating themselves. Like animals, the functions of their organs are liable to various disturbances through an excess of heat, cold, moisture or dryness, or other unsuitable external conditions.

Almost all the diseases of plants which show themselves outwardly, proceed from disorders which originate in their interior parts. Disease arises in the interior of plants sometimes in consequence of faults in the solid or fluid materials which they assimilate. There may be a superabundance, or a scarcity of sap, or an unhealthy change in its nature resulting from a scarcity of the proper ingredients in the soil necessary to the life of the plant. The last condition of things is undoubtedly the cause of the majority of the diseases to which plants are liable, which are therefore easily cured, because we can readily impart to the soil the material required by the plant, and which when absorbed will gradually induce a healthy condition of its fluids.

In examining and treating the diseases of plants it is necessary to attend not only to the symptoms, but to ascertain as correctly as possible the conditions under which they are developed, so as to arrive at a knowledge of the causes which produce them. Nourishment taken up from the same soil is capable of producing in plants totally opposite effects; in one species a superabundance of sap, in another a scarcity; in both these instances a diseased condition is generated; whilst the same nourishment shall be suited to the organization of a third species and induce its healthy and vigorous growth. It is therefore necessary to obtain an exact knowledge of the soil, the situation, and the cultivation of the diseased plant, and carefully to compare these external circumstances with the conditions to which a sound, healthy plant of the same species has been subjected, if we would form a right judgment as to the cause by which the disease has been produced and the best methods of effecting its removal.

The diseases of plants may be resolved into two leading classes, viz., such diseases as affect their nutritive and reproductive system.

### I. *The Diseases of the Nutritive System.*

*The unhealthy effusion of the sap*, (HEMORRHAGIA.) This disease may be called vegetable hemorrhage. It shows itself when the sap of trees springs forth from their interior tissues and appears on the surface of the stem or branches, having formed for itself an outlet through the bark. This effusion of sap is sometimes excessive, and then the vegetative forces of the tree are enfeebled, and if the wound is not healed, unhealthy decomposition is induced, both in the ascending raw and descending proper sap, in consequence of too much exposure to the air. Trees abounding in a saccharine or sugary sap, such as the maple, birch, and the grape, and trees with stone fruit, as for instance, the cherry, plum and peach, are the most subject to this disease.

This outward effusion of sap proceeds from its superabundance. The tissues of the tree are only able to assimilate and take up a certain quantity, and the remainder of the sap forces for itself an outlet through the bark and appears at the surface.

In the grape this outflow of the sap generally makes its appearance in early spring, before the plant comes into leaf, and is called the tears of the vine. The hemorrhage is not attended in this instance with any injurious consequences, because the fissures in the bark through which the sap escapes speedily close, as soon as the new shoots and foliage are put forth. This fact teaches us that the weeping of the vine when it is pruned, and the flow of the sugary sap from the birch and maple trees when they are bored is not injurious to these trees if they contain a superabundance of the fluids which we remove from them.

Whenever in fruit trees there appears to be too much sap it is necessary to bleed them, which may be done by making a longitudinally incision into the bark with a sharp knife; this will give free vent to the fluids which are in excess and lead to the healthy circulation of those retained by the plant, through its system. The wound must, however, *after a little time*, be carefully closed, (if the operation is performed on the tree after it has made its annual growth,) with a *mixture of loam, cow dung and quick-lime.*

To an injurious efflux of the sap is also to be attributed the resinous pustules or swellings found on the branches of the pine and fir. These may arise from injuries of the bark during storms. Portions of the stem between the bark and the sap-wood become filled with a resinous watery fluid, which either gradually hardens and thus prevents the circulation of the sap, or, bursting through the bark, flows out as resin in long, clear drops.

(*To be continued.*)

## DEEP TILLAGE, TRENCHING, &c.

The following remarks, adding additional evidence to the truths so well established in relation to deep culture, recently appeared in the *Mark Lane Express*, (London.)

When the prophet alluded to the divinely-given wisdom which leads the plowman to "open and break the clods of his ground," he characterized the operation of tillage in terms which the light of modern science and practice has enabled us more fully to understand. We "open" the ground not only to admit the seeds or to allow the free spreading of the roots of our crops, but to let in the atmosphere, the rains, and dews which impregnate the recesses of the sub-soil with fertility. We "break the clods" not merely to favor the fine rootlets of young plants, but to expose an infinitely multiplied extent of superfices in the pulverised mould to the chemical action of the gases we call "the air." And the teachings of Jethro Tull, of Deanston Smith, and of Lois-Weedon Smith; the practice of Flemish farmers and vineyard cultivators abroad, and of market gardeners, cottagers, and trench-plowers at home, are all commentaries and illustrations developing the significance of the Hebrew's descriptive phrases.

And have we not a corroboration of the advantage of deep and minute tillage in the natural processes which are working around us? Have not we all seen the changed texture and productive quality of a weathered sub-soil; seen the sterile clay from from the deep drain moulder into manageable and wholesome soil under the culture of a single wintering: reminding us of the saying of Dr. Clarke, that "the frost is God's plow, which he drives through every inch of ground," pulverating and fructifying all?

But to come to particular examples. Mr. Hoskyns has described the practice of the vine-growers in Madeira, which forms a remarkable and striking lesson for us. The vine is not a native of that island; and after growing well for a few years, the fruit begins to degenerate, and makes inferior wine. The expense of new stocks being very great, as they are usually brought from the hock-vineyards of Germany, every expedient has been tried in order to postpone the evil as long as possible; but no manuring, or pruning, or attention, is of any avail; and the only remedy is found in *deep cultivation.* "I once happened," he says, "to see the process. Nearly a score of laborers, hard at work, were standing in a long trench as deep as they were tall, stocking the earth from one side and throwing it up on the other. On inquiry, they told me they were trenching *an old vineyard* for fresh planting—trenching *nearly six feet deep!* Some months afterwards, a merchant, in taking me over his wine-stores, pointed out in some casks that were being broken up, a mineral incrustation about as thick as a half-crown, and as brittle as glass, which he called *tartrate of lime;* adding, that it was commonly deposited by the wine, especially when new. I afterwards ascertained that potash and soda existed in the deposit. Now these minerals are very deficient in the soil of the island. Here, then, was good reason for deep trenching. The vine, to supply its mineral wants, robbed the soil so fast of what little alkali it contained, that nothing but the opening of a great depth to the action of the roots would keep up the supply for many years; for the roots of delicate plants will not travel through earth that has never *seen daylight.*"

The vegetable gardens which supply Covent Garden, and the other markets of the metropolis, we all know, are not only profusely manured, but deeply tilled; and in many cases the sub-soil has been dug up, in the gradual course of time, no less than *four*

*or five feet deep*, to supply the waste of mineral matter to the soil above.

In certain parts of Flanders they have a peculiar mode of gradually deepening the staple by spade-trenching; trenches being dug between the lands when sown, and the sub-soil thrown over the surface. They go about two inches deeper than the cultivator has hitherto reached; and by shifting the trenches sideways each year, at the end of a certain number of years two inches of the entire sub-soil become mixed with the upper surface, and the soil is thus deepened by that amount. The same process is then repeated a couple of inches deeper still; and after four or five courses of trenching, the land is brought to a depth of 18 or 20 inches of uniform quality.

In Jersey they use a trench plow, which follows the common plow, and by means of a shelving mould-board raises the sub-soil out of the furrow and throws it on the top of the just turned furrow-slice. This is done as a regular thing once at the commencement of every rotation—that is, at the breaking up in autumn for the next year's turnip fallow.

Now let us observe in these instances that the sub-soil is not brought up in large masses to defy the disintegrating powers of weather and crushing implements; nor is the whole of the cultivated staple buried underneath a great thickness of the lifted sub-soil, and so placed out of reach of the young plants above; neither is the sub-soil merely broken and stirred, and covered again immediately by the original staple, soon to coalesce again into its former impervious condition; nor is it simply mingled partially and imperfectly with the staple, as is the case in some descriptions of sub-soil plowing. But it is lifted bit by bit, *a little at a time*, and *exposed in a granulated state openly upon the surface*, so as to be subjected to the ameliorating agencies that are above ground.

And it is by appealing to long-known and well-established practice like these, that we can readily confute the objections which have been brought against trench-plowing, and explain the causes of failure in many cases of its trial. The secret of want of success in trenching clays and strong loams, wherever it has occurred, lies, we believe, in the want of judgment exercised in performing the operation, and not in any poverty or badness inherent in the sub-soil. If a man will bury his fertile and highly-conditioned staple of four inches underneath half a foot thickness of raw unmellowed clay—thus providing for his crops a banquet of mineral food in abundance, but food uncooked and incapable of being digested by those fastidious epicures, young plants—can he expect an adequate and quick return of profit from the expensive process? But on the self-same kind of soil he knows there are cottage gardens in plenty, which are yielding richly and profitably to the deep working spade and fork; and one of the main points in the matter has been, that the deepening was gradual. Reason tells us that what the atmospheric influences, manurings, and the growth of vegetation have, in the course of time, made of four or five inches of a mass of clay, they can in the same manner make of several inches more; and this manner is by penetrating and permeating through the avenues opened by tillage. Of course, we ought not to be too wild in our expectations, or too extravagant in our descriptions of such a transformation; so that when a practical man states that "where clay land is drained, the action of the air and water passing through it so, alters the very nature of the strong yellow clays, that in a few months they will become a *deep, rich loam*," we may challenge the accuracy and appropriateness of the terms employed.

At the Farmers' Club, Mr. Webster took this course; but in so doing he unfortunately went too far, and said that we might expose the strongest clays to the action of the sun and air for years, "and yet they never altered." Quite true that after centuries of cultivation our tenacious clays have not been rendered into friable loams; but is not the thin staple which has been cultivated, mellower and of freer texture than the untilled sub-soil which it once resembled? And where the tillage has been adapted to accomplish the change talked of; where it has gradually deepened the upper soil and opened the sub-soil by deep drainage, sub-soiling, and trenching—there it is just as true that the land is made more workable, as well as richer and warmer.

## SUSQUEHANNA CO. AGRICULTURAL SOCIETY.

The Society was called to order on Tuesday evening, January 27, 1857, by H. Drinker, President, having adjourned over from previous week on account of the snow storm.

The meeting was addressed by Rev. A. O. Warren

The Treasurer's report was read and adopted, showing a balance in the Treasury of $166.94 on the first day of January, 1857.

The following persons were unanimously chosen officers for the ensuing year, viz:—

*President.*—Thomas Johnson.

*Vice-Presidents.*—Abel Cassedy and Daniel Searle.

*Recording Secretary.*—William J. Farrell.

*Corresponding Secretary.*—William P. Jessup.

*Member of Ex. Committee.*—Alfred Baldwin.

*Treasurer.*—Azor Lathrop.

The Secretary not being present, Samuel F. Carmalt, was chosen Secretary pro tem.

On motion, the time for receiving reports on grain crops, was continued till the April meeting of the Society.

A committee of five was appointed to consider the propriety of holding the Plough Match of the Society at some other point than Montrose, and directed to report at next meeting.

Adjourned.

Samuel F. Carmalt,
*Secretary pro tem.*

## PINCHING TO PROMOTE FRUITFULNESS.

Those who have never practiced this, or observed its results, may have seen, if experienced in tree growing, that a shoot, of which the point was broken, bruised, or otherwise injured during the growing season, frequently becomes a fruit branch either during the same or the following season; and this, especially if situated in the interior of the tree, or on the older and lower parts of the branches. The check given to the extension of the shoot concentrates the sap in the parts remaining; and, unless the check has been given very early in the season, or the growth very vigorous in the tree, so that the buds will break and form shoots, they are certain to prepare for the production of fruit. It is on this principle of checking the growth, and concentrating the sap in the pinched shoot, that pinching to produce fruitfulness is performed; and its efficiency may be estimated from the fact that the trees on which it has been practiced have borne fruit four or five, and perhaps seven years sooner than they would have done without it.—*Barry's Fruit Garden.*

## EQUIVALENT OF VARIOUS PLANTS TO HAY.

In Berger's *Economy of Farming* there is a "Table of Equivalents" showing how much of one kind of ordinary fodder is equal in nutrimental value to an equal amount in weight and measure of another kind. The following is an extract of this table:

100 pounds of hay are equal to

| | | |
|---|---|---|
| 90 | pounds | clover hay made when fully blossomed. |
| 98 | " | made before it blossoms. |
| 98 | " | second crop of do. |
| 98 | " | Lucerne hay. |
| 89 | " | Sainfoin. |
| 410 | " | Green clover. |
| 467 | " | Vetches and tares, green. |
| 275 | " | Green Indian corn. |
| 374 | " | Wheat straw. |
| 244 | " | Rye straw. |
| 164 | " | Oat straw. |
| 153 | " | Pea Straw. |
| 201 | " | Raw potatoes. |
| 175 | " | Boiled potatoes. |
| 339 | pounds | Mangel wurtzel. |
| 504 | " | English turnips. |
| 275 | " | Carrots. |
| 308 | " | Ruta baga. |
| 54 | " | Rye (grain.) |
| 46 | " | Wheat. |
| 59 | " | Oats. |
| 64 | " | Buckwheat. |
| 57 | " | Indian corn. |
| 45 | " | Peas. |
| 55 | " | Beans. |
| 60 | " | Horse-chestnuts. |
| 68 | " | Acorns. |
| 62 | " | Sun-flower seed. |
| 69 | " | Linseed cake. |
| 105 | " | Wheat bran. |
| 109 | " | Rye bran. |
| 167 | " | Wheat and oat chaff. |
| 167 | " | Rye and barley chaff. |

An ox requires two per cent. of his live weight in hay per day; if he works, two and a half per cent. A milch cow, three per cent. A fattening ox, five per cent at first, and four per cent when half fattened and afterwards. Sheep, when grown, three and a half per cent of their live weight in hay per day.

## LANDSCAPE GARDENING.

A late number of the London *Quarterly Review* contains some excellent observations upon this subject, from which we extract the following:

"In designing the architectural garden, we must derive instruction from the warning of the past. It must not be so vast as to lose the effect of unity of design and to cause satiety. Every part should manifestly have its use. Balustrades should be employed only where some fence is intended or some protection needed. A balustrade drawn across a plane surface, whose inutility is further marked by the absence of gates where it is intersected by the walks, is an offence against common sense. On the other hand, we remember to have seen the portion of a balustrade removed from a position where it was indispensably needed to prevent the careless visitor from falling into the water, and this merely on the ground that it obstructed the view from the windows. No addition of beauty can justify an absurdity. The contrivances for coolness and for warmth, for shelter and for shade, should be exactly suited to the requirements of the climate and the circumstances of the site. In grouping the masses of the architecture and arranging the lines of the composition, the laws of the picturesque, that is to say, the laws by which the painter regulates his design, will be found the only true guides.

To secure the best effect, a due proportion between the house and the garden should be observed. If the garden greatly exceeds the house in taste and in style, it only furnishes a standard whereby to measure the deficiencies of the object to which it should be subservient. If it greatly falls short of the house in massive grandeur and richness of effect, it suggests a painful idea of disproportion and perhaps too of declining taste and diminished means. Even when the general plan and the architectural decorations are all that can be wished, it not unfrequently happens that the details are disfigured with prettiness greatly below the general conception. When a magnificent platform is to be filled with flower beds, the patterns should be large, and the masses of flowers sufficiently important to aid with the richness of their color the grandeur of the forms.—Intricate scrolls and fantastical flourishes (however beautiful on paper) are meagre and confused in such a position, and the multitude of little columnar shrubs with which it is the fashion to stud the surface, are mean and shabby if they grow ill, and, if they grow well, in a few years they produce the effect of crowd and confusion; they obstruct the view and throw a shade of gloom where, above all things, the character of light and brilliancy is demanded.

Whether the kitchen garden should be placed in the immediate neighborhood of the flower garden is a question which must be decided in each case by the site and character of the buildings, and, above all, by convenience. The chief beauty of which it is susceptible is trimness, but by the admixture of flowers great gaiety and brilliancy of effect may be obtained, and architectural embellishments may be introduced to any extent which the circumstances render desirable. The various frames, stoves and hothouses of all descriptions, though all such glass houses must be ugly in themselves, from the magnificent conservatory (the first building of the kind) which Mr. Decimus Burton built for the Duke of Devonshire at Chatsworth, down to the glass hovel which the market gardener builds for himself, may yet in their general arrangement be so grouped together as to produce a not unpleasing effect.

True picturesqueness, like true beauty, cannot result from the discordant association of damp and gloom, with the dwelling of opulence and comfort. Trees should be left where they afford a shelter—where they exclude light and air they should be removed, and if the owner persists in leaving them where they block out a fine view, he is sacrificing the greater beauty to the less."

Draining of wet lands and marshes adds to their value, by making them to produce more, and by improving the health of neighborhoods—both important considerations.

## CULTIVATION OF THE SUN FLOWER AS AN AGRICULTURAL PLANT.

The *Irish Farmer's Gazette* remarking upon the propriety of cultivating the Sun flower as a field plant for the purpose of producing a cheap food for poultry and the production of oil, gives the following summary of its character, products and cultivation:

"The Sun flower (Helianthus annuus,) though a highly ornamental plant in the flower garden and the shrubbery, possesses much more valuable and profitable qualities than it generally gets credit for, and from its utility and hardihood, in many instances, may be profitably cultivated in the field. The stalks when burned for alkali, are reputed to yield 10 per cent of potash; the green leaves, when dried and reduced to powder, and mixed with bran, according to some French writers, are excellent food for cows, and greedily consumed by them. In Portugal the seeds are made into meal and bread, and in America they are roasted and substituted for coffee. But their chief value, in a commercial point of view, is in the great quantity of a very pure oil which may be expressed from them, which is reputed little inferior to olive oil, and suited for table use, burning in lamps, and for the manufacture of soap. The seeds are also greedily devoured by birds, and yield a cheap food for poultry, with the further advantage, it is said, of rendering the hens prolific, and the cake produced after expressing the oil is excellent for cattle feeding.

The produce must vary considerably with the soil and other circumstances, but it has been found to yield 50 bushels of seed per statute acre, producing about 50 gallons of oil and 1,500 lbs. of oil cake. Though the plant seems to flourish in any soil and to require but little care or attention, that which is most suitable for it is dry, deep loam, and rich in alkaline matter. Fresh sea-mud makes an admirable manure for it, and if the soil be heavy, may be advantageously prepared by dressing with shell, sand, limestone, gravel, or any other opening calcareous matter, but it should be well worked and finely pulverized. The best time to sow is early in March, in dry weather, and as the plant bears transplanting admirably, the seeds may be either sown permanently where they are to remain, or in drills, 18 inches apart, in a nursery, for future transplanting, the the proper time for which will be, when the young plant has perfected its fourth leaf. They may then be planted out in rows about 18 inches apart, and at 12 inches plant from plant in a row. If sown where they are to stand, drills should be drawn by the hoe, about an inch deep, 18 inches apart, and the seeds scattered thinly along it, and covered up, or what is better and more economical, the seeds may be dibbled-in in rows at the above distance, three or four inches apart in the rows, and when of the size above described, thinned to 12 inches apart. The thinnings, if carefully lifted, may be transplanted as above directed, if required, watering the the plants if the weather be dry. Keep the land clean of weeds by the hoe, putting a little earth round the plants for about six weeks, when the leaves will so cover the land as to smother all weeds, and will require no further care till the crop is fit for gathering, saving that in our climate it may, and no doubt it will be found necessary to remove all the secondary flowers, which, if left on, would only tend to rob the primary flowers of the nutriment required, and retard their ripening. When the heads are ripe, or nearly so, the plants should be cut down near the ground, choosing dry weather, that no wet may stick or remain in the flower heads, and remove them to a dry, airy shed, where they are to remain till quite dry, when the seeds may be extracted. As they are particularly susceptible of moisture, which is injurious to their keeping quality, they should not be left on the ground, but be stowed away in a dry, airy place, where vermin cannot get at them.

Hitherto the cultivation of the sun flower has been chiefly confined to gardens and shrubberies as an ornamental plant, where it flourishes without much care or trouble, in the most ordinary soils, except merely sowing the seeds and keeping down weeds, and we can safely recommend its culture as a field plant, but only on a limited scale, till we get more practically acquainted with it, and until its uses are better developed.

## CULTURE OF THE PEACH.

A valuable communication is given in the Horticulturist for November, from Samuel T. Jones, of Staten Island, N. Y., a most successful cultivator, the chief items of management in which are briefly the following: 1. Low and open pruning, commencing when the tree is young, by cutting out the top or central branches. 2. Preventing overbearing, both for the vigor and longevity of the tree, and for the size and quality of the fruit, by a free use of the knife late in winter or early in spring—shortening back the shoots and thus removing a portion of the fruit buds, and also removing any branches which become too long, allowing young shoots to grow out and take their place. 3. The trees are examined for the worm at the root, late each spring and early in autumn, according to the well-known mode of cutting them out and destroying them. An oyster-knife, which is pointed and has a double edge, is preferred for this purpose. 4. Good, clean cultivation is given, free from grass and weeds, a most important requisite—manure, such as is required for the successful growth of potatoes, beets, and turnips among the trees, is applied; and twice a year a handful or two of a mixture of one-third potash, and two-thirds salt for each tree is applied and forked into the soil. With this treatment the trees are healthy, vigorous, productive, and long-lived; and some on the grounds measure a foot in diameter.

## CHLORIDE OF LIME FOR SMUT.

As the result of a series of experiments in relation to the above, Dr. Steele, of Dublin, arrives at the following conclusions:—

1. That wheat seed infected with smut produces plants, the grain of which is filled with a similar fungus.

2. That the presence of the smut or fungus is injurious to the straw, as well as destructive of the grain.

3. That steeping the infected seed in a saturated solution of Glauber's salts, and sprinkling it with quick-lime, has but little effect in preventing smut in the future plants.

4. That steeping the infected seed in a solution of chloride of lime, is nearly a specific in preventing smut in the future plants, and very much more effectual for this purpose than the steep of Glauber's salts, so highly praised by a French commission.

The chloride of lime has, during a few years past, been used as a wheat-steep by several farmers in different districts, and with the same satisfactory results.

The solution used is made by mixing 1 lb. of chloride of lime in one gallon of water, (soft,) stirring frequently with a *stick*, or something *wooden*, for two hours, or till dissolved. Put the grain to be steeped into a large quantity of water, stir frequently, and remove all the grains that swim. Pour off the water and add to the seed enough of the chloride of lime solution to cover it. Allow it to remain two hours, and then dry with sand, mould, lime, or other powder. The solution poured off may be used again and again, or while it lasts.

## THE GRASSES AT DIFFERENT STAGES OF THEIR GROWTH.

The following article, by Cuthbert W. Johnson, on the variation in the nutritious qualities of the grasses at different seasons, recently appeared in the *Farmer's Magazine*, (London):

The reasons assigned for this difference in the feeding qualities of grass have been rude and of little practical value.

The occupiers of the water meads of England's great southern chalk formation (to give an instance out of many) well know the value of the *first* spring crop of the irrigated grass for the food of their lambs and sheep; but they are also aware that the second crop of the season differs materially in its value. "It rots the sheep," they tell you. Then, again, the farmer remarks that the second or summer crop of grass is poorer in quality than the first or spring crop. It is not so fattening: when made into hay, "it dries up too fast." Now, although some of the recent chemical examinations of grasses at different stages of their growth, do not serve to explain all these practical observations, yet they still give us much useful information, and certainly serve to suggest more extended examinations; and they may lead to another important inquiry—the advantage of varying the top or other dressings applied to any given crop at different seasons.

It appeared, as the general result of a careful examination of most of the ordinary meadow grasses, that those which come the earliest into flower, contain the most water. (*Jour. Roy. Ag. Society*, vol. xi. p. 533.) This will be seen by the following table, which gives the mean amount per cent. of water and ash (*in the wet grass*) of groups of four specimens of various grasses flowering at the times assigned:

| | Water. | Ash. |
|---|---|---|
| Soft brome-grass, May 8<br>Sweet-scented vernal grass, May 25<br>Annual meadow grass, May 28<br>Meadow fox-tail grass, June 1 | 79.08 | 1.58 |
| Perennial rye grass, June 8<br>Annual rye grass, June 8<br>Smoothed-stalked meadow grass, June 11<br>Cock's-foot grass, June 11 | 71.93 | 1.84 |
| Hard fescue grass, June 13<br>Rough-stalked meadow grass, June 18<br>Crested dog's-tail grass, June 21<br>Upright brome-grass, June 23 | 66.31 | 2.09 |
| Meadow soft grass, June 29<br>Downy oat grass, July 11<br>Meadow barley, July 11<br>Cat's tail or Timothy grass, July 11 | 61.81 | 2.13 |

Here it will be seen (remarks Professor Way) that, although the progression from very watery specimens in the month of May to much *drier* grasses in June and July is not altogether regular, yet it is well marked. Thus, whilst four specimens of grass collected between the first and last weeks of May afford on an average only 21 per cent. of *dry matter*, other four specimens collected during the two early weeks of July contain on an average 38 per cent. of dry matter, or nearly double. Practically, it is known to be the case that the early grasses, valuable as they are for spring food, do not afford the same weight of hay as those which come into flower at a more advanced period; so that in calling attention to this circumstance, we are merely enunciating in another form a well-known truth.

The grasses of irrigated lands seem to follow a similar rule. Specimens of grass from a water meadow yielded per cent.—

| | Water. | Ash. |
|---|---|---|
| April 30 | 87.58 | 1.28 |
| June 26 | 74.53 | 2.24 |

The nutritive properties of this grass, however (which was chiefly composed of the rouge-stalked meadow grass, soft meadow grass, meadow barley, and perennial rye grass) being dried in a temperature of 212°, showed not only a much larger proportion of flesh and fat-producing principles to be present in the first crop, but (owing to the effects, we may, perhaps, conclude, of the irrigation waters) a much larger proportion of these principles than is to be found *in the same grass from unwatered soils*. The following was the result of Way's analyses (*ibid.*, 180):—

| | 1st crop. | 2d crop. |
|---|---|---|
| Albuminous or flesh-forming principles | 25.91 | 10.92 |
| Fatty matters | 6.53 | 2.06 |
| Heat-producing principles—starch, gum, sugar, &c. | 32.05 | 43.90 |
| Woody fibre | 25.14 | 34.30 |
| Mineral matters or ash | 10.37 | 8.82 |

This grass was from a water-meadow at Stratton, near Cirencester; the soil is a rich loam with a gravelly sub-soil, and the crops procured from it by the aid of water are very large. Two square yards of an average part of the field were staked out and mown on the 30th of April. The produce in the green state weighed 11¼ lbs. On the 26th of June the second crop from the plot of two square yards was cut; it weighed 8¼ lbs. The amount of the organic matters I have already given. The composition of the mineral portion or ash was as follows (*ibid.*, vol. xi. 539):—

| | 1st crop. April 30. | 2d crop. June 26. |
|---|---|---|
| Silica | 9.24 | 34.11 |
| Phosphoric acid | 9.31 | 5.56 |
| Sulphuric acid | 3.55 | 4.23 |
| Carbonic acid | 11.62 | 1.15 |
| Lime | 9.50 | 9.13 |
| Magnesia | 2.47 | 2.49 |
| Per-oxide of iron | 1.31 | 0.62 |
| Potash | 90.0 | 22.13 |
| Soda | 0.9 | 0.0 |
| Chloride of Potassium | 0.0 | 17.40 |
| Common salt | 2.91 | 3.14 |

The chief results noticeable here are—1. The larger proportion of silica present in the second crop, and the diminished amount of phosphoric acid and potash. This might lead us to examine the result of an application of either guano or super-phosphate of lime, or a mixture of both, as a top-dressing for the second crop of grass. It is well known that in Peru the cultivators apply about one cwt. per acre of guano to their irrigated lands just before they let on the water; and in the case of the meads, which are irrigated with sewer water, (when there is little or no difference in the bulk or feeding value of the three or four large crops produced) there is an abounding presence of both ammoniacal matters and of phosphate of lime.

There is no doubt but that the composition of even the organic portion of a plant is materially influenced by that of the manure with which it is dressed. Take, for instance, the amount of nitrogen present in the seeds of wheat. Now Hermstaedt found as the result of his experiments, (*ibid.*, vol. iv. 179) that the seeds grown *without manure* gave 9.2 per cent. of gluten (containing a large proportion of nitrogen.)

| | |
|---|---|
| Wheat grown with vegetable manure............ | 9.6 |
| " " " cow dung.................... | 12.0 |
| " " " sheep dung.................... | 32.9 |
| " " " night-soil.................... | 33.14 |

Neither are the alterations which take place in the composition of the plant during the growth of the crops of the farm confined to either the meadow grasses or the seed corn. The straw of the oat also appears, from the experiments of Mr. J. P. Norton, to undergo equally considerable variations in the proportion of the mineral substances which it contains. The oat he examined was of the potato variety, and the plants grown by Mr. J. Girdwood, of Carstophine, were at the commencement of the experiment, from four to six inches in height. (*Trans. High. Soc.*, 1845, 321.) The following table gives the amount of water and of ash per cent. contained in the plants in each of the thirteen weeks, from June 4 to September 3, employed in the investigation:—

| Day when received. | The leaf. | | The stalk. | |
|---|---|---|---|---|
| | Water. | Ash. | Water. | Ash. |
| June 4.............. | 80.51 | 2.16 | 87.04 | 1.36 |
| " 11.............. | 82.76 | 1.86 | 87.05 | 1.28 |
| " 18.............. | 82.02 | 1.63 | 87.13 | 1.28 |
| " 25.............. | 78.53 | 2.35 | 84.74 | 1.40 |
| July 2.............. | 80.26 | 2.24 | 83.66 | 1.28 |
| " 9.............. | 76.97 | 2.81 | 82.05 | 1.40 |
| " 16.............. | 76.53 | 3.06 | 80.85 | 1.52 |
| " 23.............. | 77.61 | 3.85 | 79.60 | 1.63 |
| " 30.............. | 77.00 | 3.78 | 76.64 | 1.74 |
| Aug. 6.............. | 76.63 | 3.75 | 75.66 | 2.01 |
| " 13.............. | 74.06 | 6.14 | 69.80 | 2.00 |
| " 20.............. | 79.93 | 4.25 | 76.27 | 1.58 |
| " 27.............. | 70.68 | 6.49 | 71.56 | 2.19 |
| Sep. 3.............. | 24.00 | 15.78 | 71.70 | 2.36 |

It next became of importance to ascertain the composition of the ashes of the oat plant at different stages of its growth. The following table contains the result of some of Mr. Norton's examinations. The ashes of the leaf of the unripe oat plant contained:—

| | June 4. | June 18. | July 2. | July 16. |
|---|---|---|---|---|
| Potash and soda............ | 24.60 | 26.21 | 18.78 | 18.35 |
| Common salt,.............. | 16.34 | 11.30 | 7.92 | 0.30 |
| Lime...................... | 8.44 | 7.33 | 6.91 | 5.13 |
| Magnesia.................. | 5.33 | 3.47 | 2.39 | 1·63 |
| Oxide of iron............. | 0.61 | 0.72 | 0.40 | 0.55 |
| Sulphuric acid............ | 11.74 | 10.59 | 9.50 | 13.05 |
| Phosphoric acid........... | 16.16 | 10.12 | 6.92 | 2.91 |
| Silica.................... | 16.58 | 30.31 | 47.62 | 58.22 |

The ashes of the unripe stalk contained—

| | July 4. | July 18. | July 2. | July 16. |
|---|---|---|---|---|
| Potash and soda............ | 24.94 | 26.49 | 36.25 | 42.43 |
| Common salt............... | 32.66 | 24.94 | 11.62 | 4.46 |
| Lime...................... | 2.40 | 3.74 | 2.64 | 4.12 |
| Magnesia.................. | 0.88 | 2.20 | 1.17 | 1.47 |
| Oxide of iron............. | 0.39 | 0.40 | 0.88 | 0.62 |
| Sulphuric acid............ | 6.15 | 8.51 | 7.98 | 7.84 |
| Phosphoric acid........... | 16.15 | 12 55 | 2.21 | 6.31 |
| Silica.................... | 16.29 | 20.41 | 36.64 | 34.85 |

It will be noted by the reader that during the growth of the plant the amount of potash and soda decreased in the *leaf*, but materially increased in the *stalk*. That the silica in both increased, but in much the largest proportion in the *leaf*, and that in both portions of the plant the common salt and the phosphoric acid very materially decreased during the six weeks the examination continued.

We can hardly avoid the conclusion that these chemical examinations might not only be usefully extended, but that they lead to several other subjects for inquiry. It is evident that the requirements of the plants we have been examining vary in different stages of their growth, and that to a very material extent. It is probable, therefore, that certain fertilizers, which are hardly remunerative when applied in the ordinary way, might be rendered far more useful by improvements in the usual mode of employing them. We are all aware of the great difference which is produced by slight, and not always easily explained, variations of this kind, such as by sowing guano, gypsum, &c., in moist weather, rather than in dry; or, to give another instance, the yet unexplained much greater effect of applying a mixture of common salt and soot to certain crops, than by their separate application. We are, in fact, never likely to exhaust these kind of practical inquiries.

## CULTURE OF THE POTATO.

A correspondent of the *New England Farmer* communicates some important experiments in the culture of the potato. In the course of his remarks, he says:

"I followed the advice of an old English farmer in cutting my potatoes and dipping them immediately in plaster, and planting them with the plaster side up, handling them lightly, to keep from knocking off the plaster. I planted a piece of land containing some four rods short of a fourth of an acre; the land was in a neighbor's field, and he planted potatoes the same day, each side of mine, but his potatoes had no plaster on them. The result was that the plastered potatoes came up first, and continued to gain on the others through the season, and when dug there was some difference in the yield. My neighbor dug the same number of rows of his, that I had in my piece, and we measured them to ascertain the difference; he had thirty-eight bushels, and I had seventy-two!"

He planted five rows, eight hills in a row. The first was planted with one large potato, cut in halves, in each hill, and yielded 44 lbs. 2 oz.; the second, two quarters of a large potato in each hill, 39 lbs. 2 oz.; the third, small potatoes, two halves in a hill, yield, 31 lbs. 2 oz.; the fourth, two small in a hill, yield, 30 lbs. 10 oz.; the fifth, one large whole potatoe in a hill, 27 lbs. 2 oz. This experiment appears to be decisive in favor of one large potato in a hill, cut in halves, and shows a great difference between halves and whole ones. The large potatoes, whole, gave the lightest yield of any.

Mr. Shipman, of Illinois, experiments in the culture of potatoes under straw. He plants the potato in the usual manner, and then covers it six inches deep with straw, after which no cultivation is required, as the straw keeps down the weeds. His crop was of excellent quality, and the yield, at the rate of 640 bushels to the acre. He has tried this method three years in succession, and always with results superior to the common method. Some of his potatoes, cultivated both ways on the same field, show this result: cultivated by the common method, 2 bushels and one peck to the square rod; under straw, 4 bushels and one peck.

## BLACK MERCER POTATOES.

Respected Editors:—If it be not out of season to write a few lines in relation to the Black Mercer Potatoes, I will willingly do it, especially if any of the readers of the "Journal" can derive any benefit therefrom, and you think it worthy of a place in its columns.

Two years ago I purchased one and a half bushels in Philadelphia, and planted them somewhere between the 15th and 20th of the 5th month, but owing to my having cut them several weeks previous to planting, and leaving them in a barrel they became heated, and only about one half of them germinated, but a few that were cut at the time of planting all came up well, thereby reducing my crop when dug to 20 bushels. Last year I planted again, about the middle of the same month, a strip of ground containing one-fourth of an acre, and although the season was very dry, I harvested near eighty-seven bushels, or about the rate of three hundred and fifty bushels per acre. Now, I confidently believe, from what I have seen and known of them, that there can be raised from two hundred to four hundred bushels per acre, with the ordinary treatment and a fair season, as well as one hundred or one hundred and fifty bushels of the common Mercers.

But from my experiments with them, I am satisfied they want to be planted early, as soon as the ground is in a suitable condition, say the forepart of the 4th month, as they require a long season to mature; both years that I have planted them, the vines did not die until frost put an end to their growth.

After having used them for two years for table use, I can recommend them for their good qualities, as well as being so prolific; we all concurring in the judgment, (also several of my neighbors who have raised them,) that they are equal to the common Mercer, both for whiteness of flesh, and dryness when boiled, and excellency of flavor, which three qualities constitute a good potato. If anybody doubts my representation, let them purchase some, and try for themselves.

M. Cadwallader.

Near Fallsington, Bucks Co., Pa.

## THE BABRAHAM SHEEP SALE.

The 28th anniversary of the celebrated Babraham sheep sale took place on Friday last on Mr. Jonas Webb's grounds, on which occasion there was a large party from all parts of the kingdom. The number of sheep let was 77; last year the number was 75; the average of the letting to day was £33 1*s.* 4¼*d.*; last year it was £25 15*s.* 2*d.*; and in 1854, £25 4*s.* 3*d.* The bidding commenced with extraordinary spirit. The first 20 realized £135, being £407 in advance of the reserved bid. The first 50 sheep fetched £1965. The Emperor of the French (by his agent) hired the two highest priced sheep, the first being 150gs., and the second £140; the former was put in the ring at 80gs. and the other at 50gs. The first sheep put up was at a reserve of 40gs. and realized 93gs. Lord Chichester hired a very fine tup at 130gs., which was put up at 80gs. A French gentleman hired a splendid animal at 131gs., put up at 80gs.; and an American hired one at 90gs., put in the ring at 50gs. The whole proceeds of the sale realised £2546 5*s.*, being, as above stated, an average of £33 1*s.* 4¼*d.*

## ANNUAL MEETING OF THE LANCASTER COUNTY AGRICULTURAL SOCIETY.

The sixth annual meeting of this society was held yesterday in pursuance of public notice at the Court House in this City. Hon. John Strohm, President of the Society, in the chair.

The meeting was an interesting one, and the question of holding an Agricultural Exhibition in this city, next fall, elicited considerable discussion. We are indebted to the obliging Secretary of the Society, D. G. Eshleman, Esq., for our sketch of the proceedings.

A matter of great importance to the farmers of Lancaster County was introduced by Mr. Lefevre, of this city, in the following resolutions, which were adopted:

*Resolved*, That the Recording Secretary be, and he is hereby instructed to see that this Society receive its due share, or at least a portion of the seeds distributed by the Patent office.

*Resolved*, That the number of staple productions of farmers is too limited; that their interest requires the number to be increased, so that their dependence need not be altogether on two or three; and that for the purpose of increasing said number of staple productions, we would highly approve of a judicious system of exchange of seeds, foreign and domestic.

*Resolved*, That from the experience of the past year, we unhesitatingly express our opinion that our seasons are sufficiently long, thoroughly to mature not only the sap, but also the seed of the Chinese Sugar Cane, and that the juice of said Sugar Cane seems well suited to the manufacture of molasses and sugar. We therefore confidently recommend said Chinese Sugar Cane for trial on a small scale, until its merits or demerits are fully ascertained.

William T. McPhail, John B. Warfel, William S. Hough and Louis C. Lyte, were on motion, elected members of the Society.

Mr. Eshleman moved that a committee of three be appointed to nominate officers for the ensuing year, which being adopted, the chair appointed D. G. Eshleman, John Miller and B. Herr, Esqrs., on said committee.

The chairman called the attention of the Society to the invitation extended by the Directors of the United States Agricultural Society, to the several local Societies to send delegates to the meeting of the former to be held at Washington in May next.

Mr. Hiller moved that the chair be authorized to appoint five delegates to attend as above. Adopted.

The chair appointed as delegates, John Miller, Jacob B. Garber, Jacob B. Hershey, Levi S. Reist, and Benjamin Hershey.

The committee on the nomination of officers made the following report, which was unanimously adopted:

President—Hon JOHN STROHM.
Vice Presidents—JAC. B. GARBER, JNO. MILLER.
Recording Secretary—DAVID G. ESHLEMAN.
Corresponding Secretary—CASPER HILLER.
Treasurer—C. H. LEFEVRE.
Librarian—J. YEATES CUNNINGHAM.
Managers—Benjamin Herr, Benjamin Eshleman, Jacob H. Hershey, Abraham Peters, Jacob N. Frantz, Levi S. Reist, J. H. Hershey.

On motion, the Chair appointed the following.

FRUIT COMMITTEE FOR 1857.

Jacob B. Garber,
Casper Hillar,
Hon. John Zimmerman,
John J. Libhart,
Cyrus N. Herr,
John Miller,
Levi S. Reist, Esq.,
Harvey Brackbill,
Aldus J. Groff,
John B. Warfel, Esq.,
Lewis C.Lyte,
John M. Summy,
Henry G. Herr,
J. Hershey Hershey,
Abraham Groff,
P. S. Clinger, M. D.,
Allen Richards,
Hon. John Strohm,
D. G. Eshleman, Esq.,
Abraham Peters, Esq.,
Benjamin Eshleman,
Theo. Fenn, Esq.,
Albert K. Warfel,
J. W. Houston, Esq.,
Jacob Frantz,
Peter S. Reist,
C. H. Lefevre,
Benjamin Herr, Esq.,
F. H. Stauffer, Mt. Joy,
H. A. Hogendobler,
J. R. Hoffer, Mount Joy,
John Brady, Jr.,
J. M. Westhaeffer,
F. W. Beates,
Dr. J. K. Eshleman Chester Co.
Henry C. Locher,
Samuel Miller, Lebanon,
Wm. S. Hough,
Dr. S. Keller, Elizabethtown,

After the passage of a resolution authorizing the Fruit Committee to fill vacancies, and to make such additions to its number as the majority of its members, at its different meetings, may deem advisable, the Society adjourned to meet again on the 23d of March.

### BUTTER AND CHEESE.

The exports of domestic butter and cheese from the United States are on a much larger scale than many, perhaps are aware of. During the fiscal year of 1855, the shipments of butter amounted to 2,315,249 lbs., valued at $418,723; and of cheese, 4,846,568 lbs., valued at $514,034. Of the butter, the largest proportion, 461,015 lbs., was sent to British West Indies. To England there were exported 3,343,000 lbs., of cheese—more than three-fourths of the entire shipment. Nearly 500,000 lbs., of butter were sent to China, and about 234,000 lbs., to Australia. Strange as it may seem, during the same fiscal year, 879,000 lbs., of butter were imported into the United States, from British North America, Hamburg, Bremen, Holland, England and France, for home consumption. Besides this, 605,211 lbs., were imported for exportation. The imports of foreign cheese were on a more extensive scale, the total amount being 1,526,942 lbs., valued at $146,269. The Germans sent us 157,166 lbs. of their fragrant Limburger, and other varieties, and the Dutch, 220,021 lbs. France sent us the largest supply, viz: 1,002,149 lbs.

### ERADICATION OF WEEDS BY LAW.

Mr. Donnelly the chief of the Irish Bureau of Agricultural statistics, in a recent report, suggests the propriety of a law, which would render the extermination of weeds binding, under certain penalties, upon the farmers, and further says:

The presence of weeds act hurtfully in a greater variety of ways than many people imagine. Growing in the same soil with the cultivated seed, there springs up a rivalry between the two crops. The weeds not only take up room, but they interfere with the action of the atmosphere, and absorb the moisture which feeds the corn. When wind or rain comes, the weeds, being heavier than the corn crop, fall sooner, and in their fall injure the whole field. When the field is cut the weeds take a much longer time to dry than the crop in which they are found, and there follows a delay in the gathering of the harvest. Lastly, when the grain comes to be thrashed out, it is mixed with such a quantity of dross that endless labor has to be spent in separating what is good from what is bad, while a great deal of the seeds which are thus winnowed away, flies through

the air, to interfere as injuriously as ever with the succeeding harvest. The seeds of these intrusive plants are, unfortunately, more prolific than those of the cultivated crop. A poppy, it has been calculated, bears some 50,000 seeds; a thistle, 25,000; the common dock, 13,000. Corn evidently has no chance against plants that are so fertile unless it be very carefully tended: and from the observations of Sir John Sinclair one can form a pretty good idea of the extent to which these noxious growths injure the crops.

Various experiments were made in order to ascertain the precise advantage gained by careful weeding. Fields were selected, one allotted to wheat, another to barley, and a third to oats. Part of these fields were carefully weeded, and the remaining portions were prepared in the ordinary manner, without any attempt to exterminate the weeds. It was then found that the former, or thoroughly cleaned division, in the field of wheat produced 22½ bushels per acre, while the latter division produced only 18 bushels, the yield in the one case being 25 per cent. better than in the other. So of the barley; the produce of the weeded portion was more than double that of the unweeded, and the result with regard to oats was even still more decisive. When it is known that the weeding cost not more than 12s. an acre it will be seen that for a very small outlay there is a very large return. It is not simply that the weeds are got rid of, but the plants rooted up and left to rot on the soil fertilize it, and so the bane becomes its own antidote. The land, it is true, will never be perfectly free from these intruders, but the evil may be reduced to a *minimum*, and the reward of vigorous weeding is, that, once successfully accomplished, the labour required in this direction will afterwards be trifling. Both the quantity, and the quality of the crops are improved; and not only is there this great gain at a very small cost, but there is also a saving in the process of winnowing the corn, and there is not so much risk run in the harvest from a lengthened exposure to the changes of the weather.

It is certainly annoying for a farmer who keeps his land in perfect order, to have for a neighbor a slovenly husbandman, who seems to rear cockle and thistle with the same assiduity that others bestow upon wheat and barley, and from whose badly kept fields the light seeds are blown with every breath of wind, to give endless trouble to the more careful agriculturist.

Mr. Donnelly talks of fines and justices of the peace; refers to a French regulation, that a farmer may sue his neighbor, who neglects to destroy the thistles upon his land at the proper seasons; to a Danish law, by which farmers are obliged to root up the corn marigold; to an old Scottish statute which denounces that man as a traitor "who poisons the King's lands with weeds and introduces into them a host of enemies;" and to a recent act passed in the colony of Victoria, which requires the eradication of thistles, under certain penalties in the event of neglecting to do so. There can be no manner of doubt that such measures, if rigidly enforced, would have considerable effect, and that the result would be most beneficial on the character of the crops produced. We may well ask, however, whether this is the proper way to deal with the nuisance. As a mere matter of theory, Mr. Donnelly's proposal is quite legitimate. As a matter of practice, it seems preposterous. It is the confessed duty of every Government to protect the property of its subjects, and in the last resort, if every other means fail, no good Government will refuse to put down a nuisance with its strong arm. With a nuisance of the kind in question, however, it cannot be necessary for a Government to interfere. If self-interest is not enough we fear that legislative enactments, of whatever kind, would only give excessive annoyance, without leading to any good results.—*London News.*

### REPORT ON LUNAR INFLUENCE UPON AGRICULTURE.

[Published by a resolution adopted at the last meeting of the Huntingdon county Agricultural Society.]

*To the President and Members of the Agricultural Society of Huntingdon county:*

The undersigned Committee, to whom was referred the subject of Lunar Influences on Agriculture, respectfully report, that, deeming the subject one of great importance to the farming community, your committee have endeavored to give it that degree of attention which its importance merits.

When it is remembered that at least two-thirds of all the persons engaged in Agriculture and Horticulture, as well as many of those who pursue mechanical avocations, regulate all their operations by the "signs" or position of the moon in the zodiacal constellations, or its place in regard to its own and the earth's orbit, it will at once be apparent that it is a matter of great importance whether there is any philosophy or science in this system of Moonology or whether it is but superstition and folly.

When you ask the believers in lunar influences upon vegetation, in the sense above indicated, for the reason for the faith that is in them, they refer you to the almanac, and there you may contemplate the figure of a man with outstretched limbs, surrounded by the ram, the bull, the twins, the crab and other animals of various degrees of ferocity, but the *rationale* they cannot give, for the almanac gives it not; but their ancestors from time immemorial looked to the "signs" and regulated their operations by them, and therefore they, their sons and daughters go on in the same beaten track, in "blissful ignorance" whither it leads or why they go therein.

Your Committee believe that aside from the effects produced by the solar light which is reflected upon the earth by the moon she has no influence whatever upon vegetation. That light as well as heat and moisture are indispensable to vegetable growth, is a fact too plain to be denied or successfully controverted. And that the increased (and perhaps the quality of) light reflected from the moon when her whole disk or a considerable part of it which is turned towards the earth is enlightened by the sun, has the effect of accelerating vegetable growth and the ripening of crops, are well attested by experience and in perfect accordance with natural philosophy. But this has nothing to do with the signs.

The moon being nearer the earth, than any other celestial body, and surpassed in splendor only by the great orb of day, she has excited the attention of astronomers in all ages. While her magnitude, motions and distance from the earth have been nicely calculated and made known to us by astronomers and mathematicians, they have told us nothing concerning her influence upon vegetation; and this simply, because they, in all their close observations and nice calculations, have never discovered any such influence. The moon, like other satellites and the planets, is an opaque body, and shines entirely by the light received from the sun. She revolves round her axis from the sun to the sun again in 29 days, 12 hours and 44 minutes and 3 seconds, and she takes exactly the same time to go around her orbit from new moon to new moon, and therefore constantly has the same side turned towards the earth with a small variation called the libration of the moon.

*The Moon's Phases.* The sun illuminates one-half of the moon at all times; and the amount of light which is reflected depends upon the relative position of the observer and the enlightened part of the moon. Thus at the time of conjunction or new moon, the moon is between the earth and the sun, and that part of her face which is never seen from the earth is fully enlightened by the sun, and that part which turned towards the earth is in darkness. Now, as the motion of the moon in her orbit exceeds the apparent motion of the sun by a little over twelve degrees in twenty-four hours, it follows that about four days after the new moon she will be seen a little east of the sun after he has sunk below the horizon. The convex part of the moon will be towards the place of the sun, and the horns towards the left hand. As she continues her course eastward a greater portion of her face, towards the earth will become enlightened; and when she has removed ninety degrees eastward of the sun, she will present the appearance of a semi-circle or half moon. And passing still towards the east, at the end of $14\frac{3}{4}$ days, she will be diametrically opposite to the sun, and will rise above the eastern horizon as the sun sinks behind the western, a complete circle or *full moon.* The earth is now between the sun and the moon, and that half of her surface, which is constantly turned towards the earth is wholly enlightened by the direct rays of the sun, and that half which is never seen from the earth is in darkness. Then, progressing still to the eastward, the moon becomes deficient on her western edge, and when again ninety degrees from the sun, she appears a semi-circle with the convex side turned towards the sun; still continuing her course eastward, the deficiency on her western edge becomes greater, and she appears a crescent with the convex side towards the east; and in about $14\frac{1}{2}$ days more she has made a complete lunation and again overtaken the sun. This shows all the phases of the moon, and the manner in which they are produced; and to our minds it is very apparent that these changes or appearances which are constantly and gradually taking place, can have no other effects than those produced by increased or diminished *light.*

*Nodes of the Moon, or the "up" and the "down" signs.*—The nodes are the two opposite points where the orbit of the moon seems to intersect the ecliptic or the apparent path of the earth. But this intersection is merely *imaginary*, the earth moving around the Sun at a distance of 95,000,000 of miles, and the Moon around the Earth at a distance of 240,000 miles, or less than a quarter of a million of miles. The orbit of the Moon is inclined to that of the Earth at a variable angle, the medium of which is 5° 9′. The nodes make a complete retrograde revolution from any point of the ecliptic to the same again in 19 years. This is called the cycle of the Moon, after which the new and the full moons, &c., fall upon the same days of the month that they did at the beginning of the period. If the weather depended upon the changes of the Moon, every nineteenth year would have the same sort of weather at all corresponding seasons. An almanac nineteen years old would suit for this year and inform us of all the changes of the Moon and the consequent changes of the weather. But this is a slight digression.

The node where the Moon seems to ascend from the south to the north side of the ecliptic is called the ascending node, and the almanacs make it the "up sign;" and the opposite point where the Moon appears to descend from the north to the south is called the descending node—the down sign. In

astronomy these nodes are sometimes called the north node and the south node, and sometimes the dragon's head and the dragon's tail.

If we take two large rings of nearly equal size and place one within the other so that the one half of the one will be above and the other half below the other ring, at an angle of about five degrees, the one ring will represent the orbit of the Earth and the other that of the Moon. The two points of intersection are the nodes. The Earth revolves around one of these rings or orbits annually and the Moon around the other monthly. When the Moon, passing around her orbit, crosses the point of intersection, (or an imaginary line drawn from the one point of intersection to the other) from the south to the north side of the ecliptic, she is in the ascending node—in the "up sign,"—and when she reaches the opposite point she is in the descending node—the "down sign." The Moon is therefore continually alternating from the one node to the other, being about one half the time above and the other half below the orbit of the earth, but in reality all the time millions of miles from the one side or the other of the Earth's orbit.

Now, if any one can suppose that the *attraction* of the Moon can draw up or press down objects upon the Earth, such as roofs of buildings, fences, flax or manure spread, &c., that effect must be apparent in about two weeks, for that is the length of time that the Moon continues in each of these signs. After that time, the attraction still existing, there would be an alternate drawing up and pressing down as long as the moon shall wax and wane. The believers in the signs have never yet discovered how soon the effects of the Moon upon objects affected become visible; but they do not generally look for these effects as soon as the moon has passed from the one sign into the other.

*The zodiacal signs.*—The zodiac is a broad circle in the heavens, extending in breadth from the tropic of capricorn to the tropic of cancer. It is about sixteen degrees in width. The ecliptic is situated in the middle of the zodiac. The zodiac contains the twelve constellations or signs through which the Sun passes in his apparent annual course. This circle is supposed to be divided into 360 equal parts, called degrees, and these again into minutes and seconds.

The prevalent opinion among learned men is, that the figures in the signs or constellations of the zodiac, are descriptive of the seasons of the year, and that they are hieroglyphics to represent some remarkable event or occurrence in each month. Thus no productions being more useful to the Chaldeans, than lambs, calves and kids, and they generally being brought forth in the spring of the year, these distinguished that season. Their flocks were increased, and the ram was considered a fit representation of the month in which this occurred. Their herds were increased and the bull became emblematical of this. And the goats being the most prolific, they were represented by the figure of the twins. Thus we have Aries, the ram, Taurus, the bull, and Gemini, the twins, as the representatives of the spring of the year—the figures of the spring signs. When the Sun enters the constellation of Cancer, he discontinues his progress towards the north pole, and begins to move back towards the south pole, and this retrograde motion is represented by the crab, which travels backwards. The heat which usually follows in the next month, (July,) is represented by the Lion, an animal remarkable for its fierceness, and which, at this season of the year, was frequently impelled by thirst, to leave the sandy desert, and make its appearance on the banks of the Nile. In the next month, harvest commences in that country, and as damsels are generally set to glean in the fields, like Ruth in the field of Boaz, this season is represented by a Virgin holding a sheaf of wheat in her hand. The Sun next enters Libra, at which time the days and nights are equal, and observe an equilibrium, like a balance. So we have the Lion, the Virgin, and the Balance for the summer signs. Autumn, in ancient times, produced an abundance of fruit, (perhaps of inferior quality,) and brought with it a variety of diseases. This season is therefore represented by the Scorpion, which wounds with a sting in his tail as he recedes. The Sun enters the next constellation at the fall of the leaf, when the fields are clear of the crops, and the season for hunting commences. The stars which mark the Sun's track in this month, are represented by the huntsman or Archer, with his bow and arrows and other weapons of destruction. The Sun passing into the next constellation, reaches the winter solstice, and commences ascending towards the north. This season is therefore represented by the wild goat, which delights in climbing and ascending the mountain in search of his food, which was considered emblematical of the ascent of the Sun. The next sign, Aquarius, the water-bearer, pouring water out of an urn, is emblematical of the wet, dreary, and uncomfortable season of winter. The last of the zodiacal signs is a couple of Fishes, representing the fishing season.

In the time of the oldest astronomers, the equinoctial points were in Aries and Libra; but the signs which were then in conjunction with the Sun, when he was in the equinox, are now 30 degrees, or a whole sign eastward of it; so that Aries is now in Taurus, Taurus in Gemini, &c.

The signs are the invention of the ancients, and like that system of fables styled Mythology, they had their origin in superstitious and idolatrous notions. The Chaldeans probably are entitled to the credit, such as it is, of imagining that certain groups of stars resembled certain animals, such as the bear, the dog, the serpent, &c., and the Egyptians worshipped the host of heaven under the most of these imaginary figures, particularly the signs of the zodiac. They also worshipped the sun under the name of *Osiris*, imagining it a proper representative of the Deity shedding light and heat over the universe. And as the moon received her light from the sun, she was esteemed a female divinity, and honors were paid her as such, under the name of *Isis*. The overflowing of the Nile, which occurred periodically, was particularly beneficial to the land of Egypt, and as that river always began to swell at the rising of Sirius, the most brilliant of the fixed stars, they had a special veneration for the dog star, as if its influence had brought about the overflow of the Nile, and the consequent fertility of the soil.

The Greeks displaced some of the figures of the Chaldean constellations, and placed in their stead such images as had reference to their own history. The same thing was done by the Romans; and hence some of the accounts given of the signs of the zodiac and of the constellations, are contradictory and involved in fable.

Such is the history of the signs of the zodiac in a condensed form. These constellations and signs were clusters of stars which marked the position of the sun in the heavens, and were called the "*station-houses*" of the sun.—They are twelve in number containing each 30 degrees, and the sun was about a month in passing through each of them. When we consider that in the days of their origin, chronometers and almanacs had no existence, and astronomy was in its infancy, we cannot but admire the beauty of the system as well as appreciate its utility. It made a magnificent timepiece of the star-spangled canopy, and the hosts of heaven pointed out the length of days, months and years. What a perversion it is, then, to make these signs or constellations the "station houses of the *moon* as she passes round the earth. It converts them into food for superstition and ignorance, and they carry with them a train of inconvenience. The moon's transit through the signs is rapid, occupying but little over two days in each, and the almanac makers place her in one sign two days or three as best suits their convenience, without regard to fractions of days.

For example, the sign is in the Crab for two or three days, according to the almanac, and although the weather may be fine, and the field in excellent order, the farmer who *consults the moon* will not sow or plant in that inauspicious sign. Or the sign is in Virgo sometimes called the "Posey Girl," and everything then sown or planted, will expend all its energy in blossoms, on account of that girl's propensity for flowers. And equally good logic is employed in behalf of all the other signs. What folly!

The believer in moonology will no doubt be gratified to learn that when the moon's position is between the earth and any of the zodiacal signs, the stars composing that sign are so immensely far from both the earth and the moon, that they cannot possibly have any influence whatever upon the earth or any of the operations of the inhabitants of the earth! The fixed stars nearest the earth are at an inconceivable distance. It may be stated to be more than twenty billions of miles; but the common mind can form no adequate conception of such distance. We may acquire some faint idea of the immense distance of the nearest of the fixed stars from the earth, by considering that the sun is 95,000,000 of miles from the earth, and that the nearest of the fixed stars is 212,000 times farther distant. A cannon ball flying with a uniform velocity, 500 miles every hour, would require four millions and five hundred and ninety-five thousand years before it could move from one of those stars to the earth; and the different stars of the same constellations may be at still greater distances from each other. Such immensity of space is bewildering to the ordinary mind: but these considerations show plainly that the moon's position in regard to any of the constellations, can have no influence upon the earth, which is but an atom in the universe.

In conclusion, your committee would state that the facts embodied in this report, are such as are agreed upon by astronomers and mathematicians—such as are found in the lessons intended for the schools; but your committee do not expect this report to meet with much favor from a large portion of the community. Indeed, truth is never more unpalatable, than when she brushes away from the mind, a long cherished fallacy, and exposes error in all its naked deformity. Many will not believe that they have all their lives been in error. They cannot make up their minds to surrender their whole stock of "knowledge."—They will hold on to their *blind* faith, and continue to regulate their labors and their lives by the signs. But we trust there are others in whom the presentation of well-established truth—matters-of-fact and of calculation and observation, will *awaken reflection*—that they will see the folly and superstition of the signs, and be ready to follow the teachings of *reason*. The scripture speak of husbandry—of plowing, digging, manuring—of planting and sowing—and of the early and latter rain—but not a word of any signs to regulate the husbandman in any of his labors. And Solomon

who was esteemed a wise man in his day, was entirely ignorant of the signs which some of our modern Solomons understand so well, for he is profoundly silent on the subject, although he says, "In the morning sow thy seed, and in the evening withhold not thine hand, for thou knowest not which will prosper, either this or that," &c. Is it not time that the agriculturist should emerge from the superstition which has so long enveloped him, and follow the advice of Solomon, instead of the divices of the Egyptians and Chaldeans?

Facts and arguments might be adduced to show that all the effects attributed to the influence of the moon, could be accounted for, on truly philosophical and scientific principles, but they would swell this report, which is already sufficiently extended, beyond endurable bounds, and we therefore forbear.

All which is respectfully submitted.

THEO. H. CREMER,
THOS. F. STEWART,
R. M'DIVITT.

*Huntingdon*, Nov. 13, 1856.

### THE FARMER'S PROMOTION BOOK, &c.

This is the title of a very original and interesting book written by Dr. C. G. Reinhold, of Boalsburg, Pa. It develops a system of green manuring for the recuperation of worn lands and the improvement of all, which is based upon fifteen years of experiment and industrious research; and which deserves, and will certainly receive, the examination, study, and application of all economical farmers, who wish to practice, without incurring expense or risk, the good rule—"feed the land, and it will feed its owner."

The greatest discoveries and improvements which farmers have ever made for themselves—mechanical and chemical improvements having been, for the most part, discovered by others—are the introduction of artificial grasses, and of green fallows and manures. These are recent inventions, but they have had an incalculable effect in the improvement of agriculture, and have entirely changed its practice.

Now almost the only plant at present used artificially in green manuring is red clover, an invaluable plant; but, as our author shows, supplying only certain elements and conditions by its decay, while others are wanted, as every farmer becomes sensible after growing wheat a few years with the best aid that clover alone can give. The straw and grain ripen much more perfectly on new land, or on land where a dense mixture of plants have been growing, than it does on land fed with clover alone.

The system of Dr. Reinhold, which is fully detailed in his work, is intended to supply *all* the requisite elements of fertility, and that at almost *no expense* either of first cost or hauling. The author is an educated Prussian physician, and he has applied all the care and minuteness of detail to the elaboration of his system, for which the German mind and pen are noted. While the reader will probably find points in which he will not agree with the author at once, and passages or terms in which a foreign idiom may slightly obstruct the accustomed ease of native diction; there is so much that is new, evident, and food for reflection by all who cultivate the soil, that we heartily commend the book to the careful perusal of our readers.

Boardly, in his "Husbandry," pages 44–47, says of a method, which is but a very slight advance in the direction which Dr. Reinhold points out, "It is not in the power of science, of theory, or of practice to introduce a system more sound and complete."

Edmund Ruffin, well known throughout our country as one of the greatest promoters of American Agriculture, says of a similar partial application of this system: "For my individual share of the benefit, I estimate it as adding, at least, one thousand bushels of wheat annually to my crop." (See Pat. of Rep. 1852–3, p. 382.)

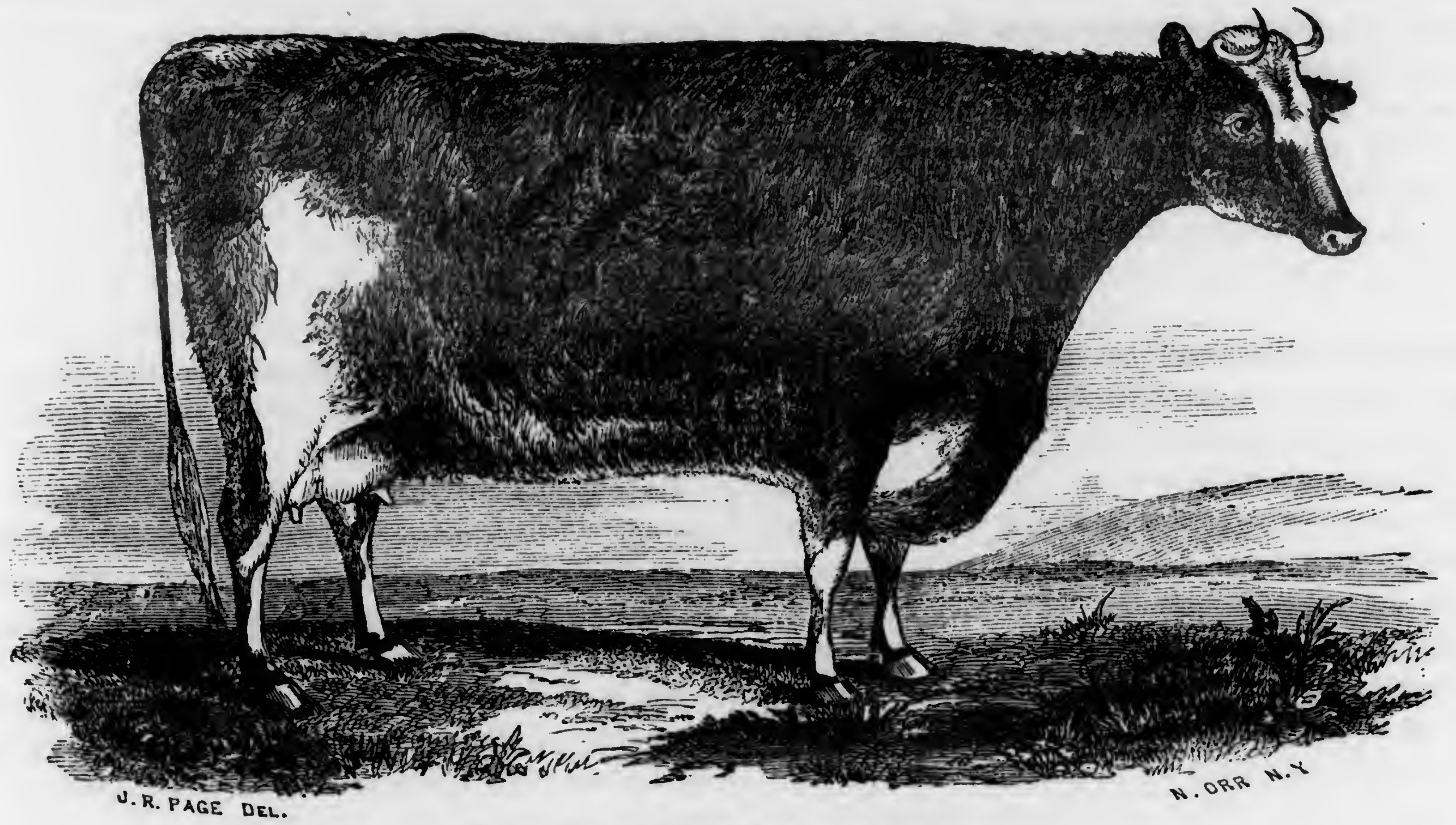
See advertisement in this number.

### THE PRODUCTION OF WOOL.

The *London Journal of Arts* states that it has been ascertained by actual experiment in feeding sheep that 1,000 lbs. of raw potatoes, with salt, will produce 6¼ lbs. of wool; 1,000 lbs. of mangel-wurtzel, raw, will produce 5¼ lbs. of wool; 1000 lbs. of wheat raw, will produce 14 lbs. of wool; 1000 lbs. of oats, raw, will produce 10 lbs. of wool; 1,000 lbs. of rye, with salt, will produce 14 lbs. of wool; 1,000 lbs. of rye, without salt, will produce 12½ lbs. wool; 1,000 lbs. of barley will produce 12½ lbs. of wool; 1,000 lbs. of peas will produce 16½ lbs. of wool; 1,000 lbs. ot buckwheat will produce 10 lbs. of wool.

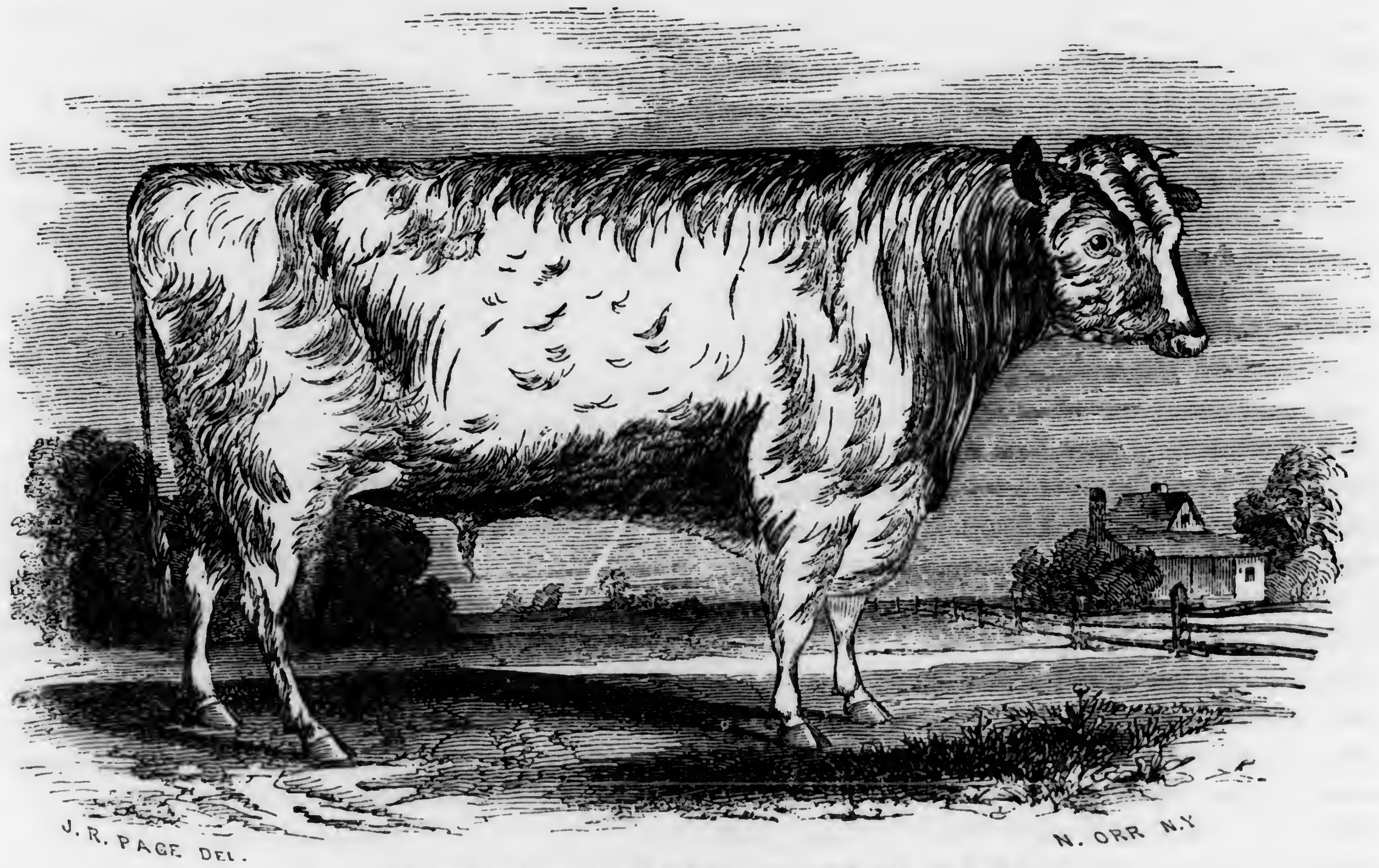
A POMOLOGICAL CURIOSITY.—We saw on Saturday some apples of good size and flavor, and the flesh blood red, although the skin was a bright yellow, showing no trace of the red underneath, which surprised every one who cut into the fruit. These apples came from Battle Creek, Michigan. The tree is said to be productive, and well worthy of cultivation.—*Boston Traveller.*

LIQUID MANURE.—Mr. Webster adopted the following plan at his farm in Marshfield. The planks composing the floor of the stables were laid about an inch apart, and so arranged as to be easily taken up. Beneath this floor about two feet of muck or loam was placed, which effectually absorbed every drop of the urine, and furnished a rich manure.



**LADY BARRINGTON 4th.**

Roan; bred by George Vail, Troy, N. Y.; the property of T. P. Remington, Red Leaf, near Philadelphia; calved August 6, 1846. Got by Meteor (A. H. B., 104); out of imported Lady Barrington 3d, by Cleaveland Lad, (E. H. B., 3407); Lady Barrington 2d, by Belvedere (1706); Lady Barrington, by a son of Mr. Mason's Herdsman (304); Young Alicia, by Wonderful (700); Old Alicia, by Alfred (23); by Young Favorite (6994).



**RICHARD BOOTH. (A. H. B., 906.)**

White; bred by R. Booth, North Allerton, Yorkshire, England; the property of T. P. Remington, Red Leaf, near Philadelphia; calved November 13, 1853; got (in England) by Richard Booth's Monk (E. H. B., 11,824); out of Rowena (imported by T. P. Remington), by Sir Walter 2d (10,834); Rowena, by son of Noble (4578); Rowena, by his Royal Highness (4039); Ruth, by Belvedere 4th (3129); Polly Hopkins, by Adolphus (1611); Primrose, by Colonel (3425); by Alba (726); by Symmetry (641); by Marquis (1196); by son of Favorite (256).

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## FORCING FLOWERS IN WINTER.

It will probably not be long before the ladies of our city, who have a taste for the curious in nature, will emulate those of England, and cultivate marine animals and plants in their aquaria. At present the taste runs more in the way of forcing flowers—an art derived from Paris. Any fancy or occupation leading to a more intimate acquaintance with nature's beautiful and wonderful creations is to be cherished and practised; and to the female mind the employment of tending flowers is particularly congenial. An interest in the subject may be awakened by the simplest sort of experiments. For instance, if the bulbs of hyacinths or tulips be placed in glasses partially filled with water—in November, or even as late as December—their growth and development may be watched. The water must be warm, and changed every morning to supply the nourishment which the plants imbibe through the little spongibles at the end of their fibrous roots, and the bulb glasses should never be quite filled with water, so that space may be allowed for air.—They may be kept on the mantlepiece till the flowers begin to expand, but as soon as they open they should be placed in a strong light to obtain richness of color.

This charming art is now carried to great perfection by those willing to give it time and attention—and what person of leisure and taste would not be? Numerous varieties of the Chinese primrose, with its large, double, cheerful-looking flowers, have been made to grow in the drawing-room, while snows and bitter blasts reigned without. The white lilac, a favorite winter flower in Paris, and the purple clusters of the same, with roses and wall-flowers, form bewitching boquets, flourishing within view of the glowing anthracite, while heaths and orange trees add richness to the blooms of their verdure.—The belle now finds no difficulty in procuring from the florist the brilliant camelia to shine amid her raven braids, nor the pendent racemes of the beautiful garrya eliptica, whose delicate, greenish flowers enhance the tender bloom of the cheek; and many are the sweet-scented blossoms mingled in her boquet. It is another refinement in luxury to cultivate these plants in the parlor or dining-room.

Time was, long ago, when it was difficult to find any floral decorations for windows or tables in winter. The seed vessels of the peony, or the negilla, or the scarlet berries of the asparagus, the holly, or the mountain ash, were alone available. Even within our recollection, branches of the delicate foliage of the asparagus have been sprinkled with the beaten white of egg, to produce the effect of blossoms at a distance. Now we have real, living and fresh flowers whenever we choose. The splendid Chinese crysanthemum led the way in the gorgeous march of the flower-spirits into our homes, to shed their smiles and fragrance upon us, when "the melancholy days are come, the saddest of the year."

We welcome the advance of this refining, fertilizing taste. The presence of pots and bulb-glasses in halls and drawing-rooms is no annoyance to us; and we hope it may be followed by the introduction of tanks, stocked with *vivaria*, till the *furore* of British ladies on the subject of mollusks and anemones shall become an epidemic throughout the length and breadth of this Republic. Our metropolitan dames especially, need something to think of and to do, which may divert their attention from dress and dissipation in some small measure, and at brief intervals. Husbands will find *their* account in cultivating the acquaintance both of the plants and animals, and providing them with accommodation.

We never knew a refined, educated woman not fond of flowers. Every young woman in the city or country would rejoice in the care of a handsome collection of beautiful house-plants.

Instead of fancy jewelry, medicated confectionary, or other foolish gifts, young men would find the presentation of a few flowery plants vastly more acceptable to sensible young women.—*Life Illustrated.*

## THE WORKING-MAN AND HIS DUTIES.

We are very sure that every reasonable reader of the Journal will agree fully with the truthful sentiments contained in the annexed extract. It is a volume of advice comprised within a few lines, and should be read and pondered carefully by employer and employed:

"Allusion had been made to the well-known saying of Lord Bacon, that 'knowledge is power.' Why, he was anticipated ages ago, Solomon said the same things in words, perhaps, more correct (for knowledge is not power until applied): he said 'a wise man is strong.' I have a notion that, next to the study of Divine revelation, a working-man should study himself. I do not mean that he should become a learned physiologist (although I have no objection to this), much less a valetudinarian, but that he should study such works as teach him how to preserve his health and maintain his strength.—Labor is the only capital of a working-man; and as the employment of this, his capital, depends upon his health, it should receive his first consideration. There is one means of preserving health that does not require any study, but a good deal of resolution; I mean a determination never to enter a public house. I have had an extensive experience in the habits of working-men, and I never knew a man get any good at these places; but I have known a great number who, by this habit, have brought ruin, misery and degradation upon themselves and families. I am no tee-totaller (I cannot do with it); but I always recommend my own workmen, and I recommend you, to keep out of these places, and take your refreshments at your own fireside, as the classes above you do. The next subjects I think a working-man should study (and I now speak to mechanics) are those which will make him a more scientific and better workman, and give him a thorough knowledge of the materials upon which his labor is expended. The elements of natural philosophy would offer up to the artisan a mine of mental, if not real, wealth. History, biography, botany, geology and astronomy would doubtless afford much pleasure; but before a working-man begins to read for gratification, he ought to inform himself upon subjects that are more necessary for him to know, and which affect his welfare. To return to the position of the working-man. I was very much amused with an article in the *Bedford Mercury* upon this institution and the working-classes. It was a very curious, but a very clever article. I don't know whether some of the remarks were intended as a compliment, or were a reflection upon this class; but there could be no mistakes about the conclusions of the writer. He said the working-classes were 'the most united class, the most wealthy class, and the most intelligent class.' No class could desire a higher compliment; and the writer certainly used great ingenuity in proving his conclusions. I recommend those who have not read the article to get the *Bedford Mercury* of Oct. 25, and read it for themselves. The writer also made a prophecy—or something like it—intimating that the working-men would not only be the *wealth-makers* but the *world-movers*. I have only one hope to express to the members of the institution, which is, that should the prophecy be fulfilled in their day, I hope they will move the world in the right direction."

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For the Farm Journal.

## PRACTICAL HUSBANDRY.

### SKETCH OF A BUCKS COUNTY FARM, &C.

MESSRS EDITORS:—There can be no question, that could we obtain a knowledge of the practical experience and successful operations of every progressive farmer, and be permitted to publish it, a wonderful increase of agricultural improvement would be the pleasing result. Indeed, we may affirm with confidence, that if it was not for the want of this disseminating influence, many farmers would not now present the improvident appearance they do. True, the example of a good neighbor should contribute to this end, and undoubtedly it does to some extent, but there is a feeling generally among mankind averse to imitating one so near, who thus would be cognizant of all their actions, thereby establishing indubitable evidence of the superiority of management, on the part of his neighbor, which would give rise eventually to a disparity of social feeling, creating envy and not unfrequently malice, and finally leading to total estrangement. That such is the case, there are already too many instances on record in proof of the assertion, hence it is exceedingly important, that a more acceptable method of exciting the emulous feelings of the practical farmer should be adopted and vigorously pushed forward, until a corresponding advance in his condition, shall crown the effort with the success which is so much to be desired.

Now, it appears to me, that there can be no means employed to equal the publication of the experimental and practical operations of agriculturists, in the various agricultural papers throughout the country. In view of this, your judicious and truthful remarks in the January number of the Journal, will bear me out, while they also show conclusively, that to sustain an agricultural paper of any interest or value to the farmer, it must contain their experience and practice upon every subject connected with the rural pursuit whether it be agricultural implements, products of the soil, manures or farm culture. The importance of the latter remark would have impressed my mind more forcibly than ever, if possible, in consequence of having an occular demonstration of its truthfulness by a recent visit to the farm of Adrian Cornell, Bucks Co., a short sketch of which I herewith append, together with some thoughts elicited by observations made, while examining the different objects of interest. When approaching the farm, it requires but a casual glance to perceive at once, that everything is marked with the air and appearance of the progressive farmer, from the very entrance gate and lane, to every part of the extensive farm buildings. This becomes the more apparent however, when we are shown the means employed to conduct the very systematic arrangement, that is necessary to produce the result so desirable. Barns of beautiful design, and particularly arranged for convenience and comfort, contribute greatly to harmonise with the other essential requisites of a well-managed farm. The ventilator on the apex of the main barn, permits the confined air and noxious effluvia evolved from the horse and cattle stables, to pass off without detriment to the animals, thus preserving a constant state of healthful respiration highly conducive to their natural wants.

In proximity to the barn, may be seen the gigantic arms and wings of the self-regulating wind-mill, rearing itself high in the air, and absorbing the power of the breeze to aid in alleviating the labors of the practical farmer, as well as to afford him a perpetual supply of pure fresh water for his homestead and his stock. The threshing machine of improved pattern, is convenient to prepare his wheat and oats for the market, while the farmer's portable grain mill, is frequently in use supplying all the necessary wants of the farm. Winter fuel is abundantly supplied by the aid of a power circular saw, thus avoiding the tedious and laborious process of sawing by hand. Spring, that genial season of bland invitations to the thrifty husbandman, finds him prepared with the latest improved tools to beguile the earth to yield her richest treasures. The improved plough, harrow, roller, limespreader, cultivator, &c., is now used with marked success, and when the ardent smiles of summer, warns him the "harvest is ripe," the stalwart arm is no longer needed to bow the grain and make the sheaves, but the sleek, well-fed horses from the barn, drives the reaper and mower with untiring zeal. And now the horse-rake follows, doing the work of a dozen hands, and leaving nothing to glean after it has passed over the stubble of the grain and hay fields. But from this interesting theme our attention is directed to view the numerous stock of cattle, horses, swine and poultry. These also bear evidence of a peculiar judgment, and plainly indicate the experience required to obtain a practical knowledge of those animals, best adapted to the wants of the thrifty farmer. Indeed it was a striking fact, that all the stock from the symmetrical and beautiful form of the deep milking, butter producing cow of the dairy, to the improved porker, whose thrifty condition plainly acknowledged the source, from which it derived in part its happy existence, had been selected with much care and attention, in order to conduce to the prosperity of the owner.

But after the gratification afforded in viewing so many interesting and useful objects of practical husbandry, my feelings became saddened, when I thought how others who cannot obtain the information, would rejoice to know of the great utility of the various improved implements employed on this farm, as well as the practical knowledge applied to the earth's productions. How many there are engaged in the rural pursuit, who would be exceedingly benefitted had they but a synopsis of the experience of such farmers in agricultural implements, farm culture, products of the dairy or any other branch of husbandry. It is therefore incumbent upon every progressive husbandman, to adopt the means that will best promote the prosperity and happiness of those with whom he is so intimately connected. To effect this consideration then it is absolutely necessary for every farmer, to write out a statement of his experience and practice for publication in some agricultural paper, that it may be disseminated broadcast over the land. Let nothing intimidate you from persevering in this good work, and those who can appreciate your valuable experience, will seek to elevate you to a position among the foremost of those, who have added to the improvement and progress of agriculture. Begin the New Year with a hearty determination to pursue this advice and let your communications be monthly to the *Farm Journal*, whether they be on the cultivation of the soil, or agricultural implements. Hesitate no longer, but write! write! for this valuable agricultural journal, and your articles will be received in that spirit, which is so essential to fraternise the publisher's interest with the husbandman's benefit. E.

*Near Bustleton*, January 8th, 1857.

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For the Farm Journal.

## THE FARMER'S NOTE BOOK.

### FARMERS' PATENT PORTABLE GRAIN MILL.

MESSRS. EDITORS:—The practical farmer, while occupied in the various duties of his avocation, is inclined to perceive the great necessity of improvement in many of his operations. Although the labors of some of these could not be essentially lightened, yet the convenience would be greatly multiplied, and thereby contribute to aid in a measure the ease and comfort of the operator, consequently, it will be observed, that where an extra convenience is obtained, or in other words, a greater facility to perform a certain amount or kind of work is produced, then it is that a corresponding reduction in labor and time, and an increase of comfort is the result.

Hence it is, that the necessity of providing and properly arranging the various implements or machinery adapted to the wants of the farmer, becomes the more important and should elicit the particular attention of all engaged in the rural pursuit. If a judicious management in this respect, could be made the prevailing rule among farmers generally, which I have not the smallest doubt will be the case eventually, then the merited title of "Independent Farmer" will be fully established beyond a cavil. It is gratifying to observe the rapid tendency to the agreeable state of things on the part of the practical farmer, and none can fail to appreciate the happy result that must accrue to the rural community.—Indeed, the effect will be so apparent and beneficial, that all classes of society will derive a degree of gratification from the increased supply of many deficiencies of the physical desires, that, heretofore, were but scantily supplied.

But, I have already said enough upon this point to show how desirable every new improvement is to promote the comfort and thrift of the practical farmer, whether it is intended to reduce the labor of the farm, or add to his convenience and prosperous condition by properly preparing the different kinds of provender for the farm stock. This latter consideration is exceedingly important, particularly during this period of the year, and hence I shall confine any further remarks to a few suggestions in regard to *feeding ground food*, *facilities for grinding*, and the economy and convenience obtained by introducing such inventions as practical knowledge has approved.

I need not dwell, however, on the advantages derived by feeding ground food, as it is acknowledged by even the most skeptical, to be the only proper and judicious method of feeding stock, not only in regard to their healthful condition, but in promoting their general thrift. Many experiments have been made to test the relative value of ground food, and much useful information has been obtained by the farmer that has resulted in his lasting benefit. These experiments have established various definite conclusions in regard to the adaptation of the whole or ground feed to the digestive organs of the animal thus fed, while the assimilating process of forming flesh and fat, which devolves upon their consequent healthful action, has been accurately demonstrated to be greatly promoted by using ground food. It should be apparent without much reflection, that grain when reduced to meal requires but little effort on the part of the stomach, to digest and distribute the nutritious matter contained therein into the various channels of nourishment in the animal frame, consequently, the excessive action of the system superinduced in the case of feeding whole grain, is comparatively reduced to an uniform and ruminating influence that creates a disposition in the animal to quietness, thereby facilitating the accumulation of fat in stall-fed cattle, and increasing the products of the dairy from the milch cow. The horse, also for this reason, can be made to perform more arduous duties on ground food and his condition be improved in comparison to when fed on whole grain, the one half of which frequently enters his stomach without being masticated. We need but to imagine the excitability of the digestive organs while endeavoring to reduce this unnatural consequence of a keen appetite, and we shall perceive at once the cause of the unthrifty condition of the latter fed animals in contrast with that of the former.

It would appear, therefore, that the advantages of feeding all kinds of farm stock on ground food is very important, and hence is becoming duly appreciated by most farmers, but the facilities for grinding are in most cases so inconvenient and attended with such obvious difficulties, that many are compelled to forego these advantages in consequence.—A constant repetition of trips to the mill is absolutely necessary, in order to prevent the meal from being damaged, by having too large a quantity in bulk at one time, owing to the green condition of the corn from the new crop having the tendency to become heated. Much valuable time is thus consumed, and unless the mill is in close proximity to the farm, the aggregate amount of time consumed would be worth one fourth of the value of the grain to be ground.—But this is not all, for should there be a deficiency of rain for a length of time, and the streams reduced below their usual capacity, then the embarrassing difficulty presents itself of being accommodated at all in getting your grain ground. And beyond this, heavy falls of snow during the winter frequently blockade the roads, rendering any access to the mill impossible for several days, while at such times the necessity of replenishing the meal-chest becomes unaccountably the more urgent. Instances might be multiplied to an indefinite number of similar perplexing circumstances, that militate against the utility of ground food when the operation must be performed by the means employed at a distance from the farm. And when we consider the amount in toll consumed, in conjunction with the loss of time, besides the great inconvenience and liability to be deprived of a proper supply of meal when required, in consequence of a deficiency of water power, we are constrained to believe the advantages accruing by feeding the stock on ground food are more than counterbalanced by the almost entire absorption of the whole value of the grain in its preparation.

In view of this consideration the importance of a portable Grain Mill peculiarly adapted to the wants of the practical farmer attracted the attention of the inventor, in order to produce a mill that would perform all the necessary grinding operations connected with the proper preparation of all kinds of grain for feeding stock. A number of mills of various degrees of usefulness was the result, which obviated, in a measure, some of the perplexing difficulties of "going to mill," and contributed a satisfaction that increased the demand for a greater supply, and also the desire for improvement in new inventions of portable mills. Believing, therefore, that the farmer would be greatly benefitted by having a knowledge of the practical utility of the "Farmer's Portable Grain Mill," recently invented by Ezra Coleman, Phila., I am induced to make a few passing remarks in regard to its general operation. Having one in constant use on the farm I have been enabled to test its capacity for grinding all kinds of grain, such as corn, oats, corn-cobs, &c., &c., with an impartial discrimination of its merits. By the aid of a one-horse railroad power, four bushels of damp new corn can be readily ground in one hour, while double that quantity of dry corn, may be ground with equal

facility, in the same length of time. From 40 to 50 bushels of corn may be conveniently ground without extra exertion in one day, which should afford ample satisfaction to every farmer, however numerous his stock might be.

It may be set to grind fine or coarse as may be required, and by means of a fine seive, which can be attached by a small lever to the mill, the finest kind of mush-meal for family use can be obtained in whatever quantity desired. The self-regulating feeding apparatus connected with the hopper, governs the horse power with an exact nicety, thus preventing an undue speed being acquired, and preserving an equality of motion that scarcely varies perceptibly in the run of a whole day. Indeed this advantage is so convenient, that but little attention is required while the mill is in operation, all that is necessary being to fill the hopper with grain and any other work may be performed in the interim.—Corn and cob it grinds with equal facility, and reduces it to cob-meal of the nicest quality. The durability of this mill is very remarkable, in consequence of the grinding surface being so constructed that the action is confined to a crushing instead of a cutting principle, thereby causing the wearing of the gutters to increase the grinding surface and act as a self-sharpening process. Hence it is, that the more you grind the more you enlarge the grinding surface, until the curved gutters become entirely worn off, then the meal will cease to pass between them, and consequently the mill is worn out and will require new castings.

Finally, the economy of feeding ground food is no longer an enigma, nor is the inconvenience of grinding a perplexing theme of its utility, because, by the introduction of the above mill, it will aid to establish the fact that the farmer's profits must be derived from the resources within his own honorable pursuit, which will tend to confirm that *independence* hinted at elsewhere, and conduce to the wellfare of others as well as himself. I will merely urge then, the importance of the practical farmer seeking to approximate this desirable position by availing himself of every useful and practical invention that will promote his progress to the accomplishment of this end. E.

*Near Bustleton*, Feb. 4, 1857.

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For the Farm Journal.

### HOW TO RAISE GOOD CORN IN A DRY SEASON.

As the season is fast approaching for us to get our ground ready for planting corn, I will give you my plan the last dry season, by which I secured a good crop. Owing to so much rain last spring, I did not get the ground ploughed till the thirteenth of May. I ploughed about seven inches deep, which by the way is considered deep ploughing in this neighborhood; as soon as I had finished I harrowed both ways, and then marked out four feet and a-half each way, and finished planting the twentieth of May. On six acres I put a compost of hen-dung and ashes, and on the other six short compost out of the cow yard; and although there was but a single handful of the hen-dung and ashes to the hill, I could see none in that and the other half that had a small shovelful of the compost out of the yard. I prepared my compost of hen-dung, by mixing one part hen-dung with one part leached ashes, the ashes being wet. I mixed it a couple of days before I wanted to use it, and let it lay on a heap till it heated; I had but seventy-five hens that made all that compost, which I think is superior to every other compost, and is not half the trouble to gather nor to apply to the corn; one hand with a horse and cart can apply as much of this compost in a day, as three hands and two horses can of shovelings. I had one of the oldest huskers in the neighborhood to help husk it, and he said he never saw finer ears the best growing season. I believe in your preaching, "Plough deep, pulverize thoroughly, and manure with a liberal hand," and trust to Providence for the rest, and you will come off conqueror. In cultivating my corn, I stirred the ground twice with a cultivator, and once with a double shovel hokey plough, which I consider the best implement in a corn-field.

A. Z.

Worcester, Montgomery Co., Pa.

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### CULTURE OF THE RASPBERRY.

The following interesting account of a successful experiment by Mr. Samuel Seymour, of South Norwalk, Ct., illustrates the advantages of good treatment, and especially of mulching, in the culture of the raspberry.

Mr. Seymour's patch consists of just one hundred square rods, or five-eighths of an acre.

*The soil* is a very stony one on a side hill. Without estimating the countless loads of stones removed in times past, one hundred cart loads were taken off to prepare it for the raspberries. This was in the fall of 1852. Twelve cartloads of manure were then worked into the surface. This manure consisted of barn-yard manure composted or rotted with swamp muck.

November, 1852, the plants were set out, four in the hill, and the hills four feet apart each way. The canes or stalks when transplanted, were about three feet in height. They were immediately bent down and covered with one to two inches of soil. In the spring they were uncovered just before the peach trees were in full blossom. The canes were then raised up and tied to small stakes set in the centre of each hill. They were afterwards cultivated just like corn, the cultivator and hoe being used to keep the weeds down, and the ground loose and level. The plot yielded 440 pint baskets of fruit the first season, (1853.) When the bearing season was over the old canes were cut off close to the ground, and the stakes taken up. In the fall, before the ground froze, the young plants were bent down and covered.

In the spring of 1854 the same course was pursued, as during the previous year. The season was a bad one and only 226 baskets were picked for market. In the fall, cutting down old wood and covering the young plants, were again resorted to.

In the spring of 1855, in addition to the previous cultivation, a coating or mulching of three loads of salt hay was spread over the surface. This kept down weeds and saved nearly all the trouble of hoeing, and kept the ground moist, besides preventing any soiling of the fruit during rain. The crop for 1855 amounted to 5,026 pint baskets, which sold for $360. Considerable quantities were also consumed at home, and distributed among friends. The same season young plants were sold amounting to $176 50. The 100 square rods thus produced in 1855 $536 50, or at the rate of $858 40 per acre. The entire expenses of culture, picking, marketing, interest of land and capital invested, &c., $411 50, or $658 40 per acre.

Last fall the usual cutting and covering were again pursued. The mulching was spaded in at the time of burying, and formed part of the covering.

In the spring of this year (1856) the ground received a new mulch of salt hay, and to this date very few weeds have grown through it. Straw, bog hay, saw-dust, spent tan, &c., will answer as well as the salt hay, which was used in this case because more conveniently procured. We cannot estimate the amount of the crop the present season, as the gathering is still going on. To this date (July 24) 4,600 baskets have been sold.

## THE FRUIT GARDEN IN APRIL.

Almost every reader of the Journal has trees and shrubs under his care. In April, when the branches and buds are swelling with the expanding sap, they become objects of especial interest; one feels the influence of their mute appeal for care and culture, and planting, mulching, manuring, hoeing, washing, scraping, grafting, and pruning, are resorted to with right good will.

The trouble is, that most of us, were in our youth taught better how to *cut down* or *cut up* trees, than to promote their *growth*, and the little knowledge we pick up on the subject, once or twice a year, later in life, annually washed out of our memories by the attention we must necessarily give to other affairs.

A few timely hints therefore, in respect to this branch of culture, will no doubt be acceptable to a majority of your readers,

*Pruning.* Every cultivated tree or shrub which bears fruit or flowers, requires annual pruning to some extent.

*Shortening in* of branches is required by trees which incline to make long bare branches, and by shrubs which flower on *new shoots*, as remontant and Bourbon roses, altheas, &c. These should be cut in very close every spring.

*Renewal* is required by all which bear fruit or flowers on strong shoots of *last* year's growth only, as grape vines, raspberries, blackberries, black currents, roses, &c. These require the removal of more than one half the wood, all the old growth and all the weak shoots.

*Thinning out.* The least observation shows how much confinement and shade, are abhorred by growing shoots, and how they struggle to open their leaves to the free air. But it is the leaf and fruit only that require this free exposure; the branches and bark require shade and shelter essentially, and every one knows how fatal exposure is to roots, though few are sensible enough of the tenderness of some.

The pruner of a large tree or shrub, will therefore seek to give just room enough for each branch and for the leaves, fruit and shoots that will issue from it during the season, without exposing *the stem*, by trimming the tree " high," or the *branches*, by leaving large openings in the top. The same rule of pruning will apply to a currant bush as to an apple tree, excepting that the most perfect and convenient form for a standard apple tree is to have a single central stem, with branches in tiers of three each, and 18 to 30 inches apart on the stem. This gives strength and balance to the head of the tree, and is convenient for climbing.

*Disbudding.* As a " stitch in time saves nine," so a slight use of the finger and thumb in June, will save great loss to the tree and its crop, and much labor with the knife next Spring. At that season a touch will remove redundant shoots, and sprouts, and turn the sap into useful channels. The profit of this simple practice is great. See the article on the subject in the March number, page 88.

One caution must be observed. Newly planted trees should not have a leaf removed during the first year. They are indispensable to the establishment of its roots. Perhaps not one half of the trees annually set out grow, and a large proportion do not live through the summer. The chief causes of this great loss and disappointment are

1. Planting trees with long bare unsheltered stems up which the wounded roots cannot force a supply of sap during hot dry weather.

2. Planting trees with rotted, frozen, or rusted roots. The under bark of a sound root looks white and fresh and the ends should be cut off at planting until such soundness is reached. But the roots should not be then allowed to lie exposed to the air, which will immediately rust them, cover them at once with soil.

3. Planting in solid earth, and expecting the young rootlets, as tender at first as those or corn or potatoes, to bore through it for nutriment. A wide bed of pure mould, should be prepared as if for wheat, but of double or treble depth. This is indispensable.

4. Planting where water will stand about the roots. This is the most common and fatal error. Trees planted in autumn, the best season, should have drainage below, and at the surface, so that the roots may remain through winter, as dry and free from frost as potatoes, for they are equally as tender.

5. Planting in spring without providing *mulching*, as a protection against summer heat and drought. This mulching should be hauled out early, and placed near the tree, but not laid over the roots until the ground becomes dry and warm, in June. If laid on sooner, it only retains wet about the roots, and this if long continued, will drown the hardiest and stoutest upland tree, much more a young and comparatively tender fruit tree.

Cherry trees and peach trees have very tender *roots*. Pear trees and plum trees, are soonest injured by severe pruning of the *tops*.

Wm. G. Waring.

*Boalsburg*, March 18.

## AN ERROR—CORN PLANTING.

It is a mistake that some agricultural journals are making, to recommend early planting indiscriminately, and without noting the exceptions.

The farmer of course will think for himself; will use his agricultural paper to suggest thoughts and plans for his own acceptance or rejection, and not as an oracle by which he is to be led captive at another's will.

Hence wrong advice is not in all cases very harmful. We verily believe that the worst agricultural paper that could be concocted, would do some good —would be worth more, in the absence of better journals, than its cost—because it would lead to thought, would sharpen the farmer's powers of observation and reflection.

Still wrong advice may prove injurious to some. The young, inexperienced farmer might be misled. Take, as an instance, the indiscriminate recommendation to plant early. It is good advice so far as it is sound. The oats will be heavier if the seed is sown about as soon as Jack-frost lets go his hold of the ground; potatoes, taking a succession of years, oftener will do well with early than late planting; winter wheat is, on the whole, more likely to escape its enemies and mature heavily, with early than with late sowing. It is so with crops generally; and then the enterprising farmer loves to see his work done in good time—would rather drive his work than be driven by it.

But how is it with Indian Corn? Does the earliest planting always give the best crop? No.—Planting at the right time gives the best result. And when is the right time? It is important to know, for when that time comes, not a moment is to be lost. Corn is a tropical plant; it loves a great deal of heat and but a moderate degree of moisture; it will flourish only in tropical countries, or those which have the summer of tropical climates. Under favorable circumstances, it grows rapidly. Three months will carry it from germination beyond the danger of injury by frost, provided the weather be warm and not over wet. Without these favoring circumstances, it " gets contrary," so to speak, and won't grow. These are essential to its tropical nature. There is hardly a more important problem for the corn-grower, than to hit upon the time for planting, when the seed will come in three or four days, and then grow " right on" without stopping.

Wheat, rye, oats, almost anything else, will wait for growing weather, without injury to the final result. Not so with corn. The farmer must give it the three hottest months in our climate, so nearly as his judgment will enable him.

The true advice with regard to this crop is, not to plant early; but as soon as the ground is warm and there is a reasonable hope of its continuing so, not to lose a moment.—*Plough, Loom and Anvil.*

## THE ADVANTAGES OF SYSTEM IN FARMING OPERATIONS.

It has been well said that " order is heaven's first law," for this is apparent in all the works of creation. Throughout nature's wide domain, every tree or plant, or flower, when unobstructed by external causes, exhibits the most perfect order in its development. The combinations, also, formed in nature's labratory, all unite with mathematical exactness.—The crystal, whatever shape it assumes, is perfect, each angle is always alike. The air we breathe is a compound, one element of which is fatal to animal life when in a separate state, and yet it combines with the other in such proportions, as to become an indispensable requisite of our existence. The instinct of the various animals and insects, leads them to observe the strictest system in all their labors. And thus all the works of God are regulated by fixed and settled laws.

And the farmer, being conversant with the works of nature, ought to be a diligent student of her operations, and from them to learn the importance of system in all his labors. Agriculture cannot be successfully pursued, without thought, reflection, observation, and comparison. From these sources that knowledge is to be derived, in part, which is to guide the practical farmer in his labors. Books and periodicals are indispensable, if he would attain to eminence in his profession. But the knowledge thus obtained must be digested by reflection, improved, and so reduced to system by experiment and observation, as to render it available in the labor of the farm. The man that labors at random, labors to but little purpose. He may possess knowledge, but unless that knowledge be systematically applied, it will be of but little use. What a spectacle do farms and farming operations often present, where no system is observed? Chaos appears to have assumed control, and Hafed's chance world to be realized in miniature.

The thorough systematic farmer, will undertake no more business than he can successfully manage. His plans are all matured by reflection, before the time arrives for their execution. Business, therefore, invites, rather than drives him. Whatever is undertaken, is done in such a manner as to secure the best results. He is not, by want of forethought, so involved in business, that much of his work will be but half performed, and his farming interests thereby suffer, and the profits of his labor lost.—Having a place for everything, and everything in its place, his time is not wasted in searching for his tools when needed, nor in mending broken ones, when business hurries. He settles in his mind beforehand what fields to plant, what fields to sow with the different kinds of grain, when and where to apply his manure, and other fertilizers. Hence his labors are so directed, that his ground is prepared in the proper time, and in the best manner for the various crops. And when the time for their cultivation arrives, he is ready to engage in it, without hurry or distraction, and able to perform the work well. And then his harvest; how different from that of his neighbor, whose land is but half cultivated, and this at the wrong time! His adherence to system enables him to gather and house his crops in proper order. They are not left in the field until half wasted by rains and the various animals and insects that are eager to destroy them.

The man of system will cultivate his crops in such rotation as to improve, rather than exhaust his land. Experiment and observation will guide to such a course as is best calculated to bring all the fertilizing properties of the soil into such a state as to be available in producing crops without exhausting its fertility. In this way land may be cultivated from year to year, and still retain its productiveness. If properly fed and managed, the effects will be as apparent as they are in the animal creation, but if overworked at random, like the worn-out beast, it fails, and refuses to yield its increase.

The importance of system is also apparent in the management of stock. Most kinds of stock, in order to be a source of profit, need constant attention, especially in winter. An animal that is well housed, properly and regularly fed, and its wants supplied, will thrive on much less food than it will take to keep one alive, that is fed at irregular intervals, sometimes even to surfeiting, and then left to half starve for a time, and this too without shelter, in the most inclement weather, when they need the most care. If their food must all be burned up in the stomach, to produce animal heat, to sustain the system, they cannot thrive, but must constantly deteriorate. Many farmers waste feed enough to half keep their stock, by throwing it out at random, without proper mangers and racks to keep it from being trodden under foot and destroyed. And by such a process the manure that should be husbanded to enrich their grounds for future crops, becomes almost a dead loss. Manure needs care and attention, in order to retain its value, as well as the animal that produces it. Men who despise all improvement, and especially *book farming*, often err on this subject. With them the product of the barnyard is manure, if all its fertilizing properties have been leached out and evaporated; many a load is drawn to the field, that is about as worthless as the sand in the street. Thus while the systematic farmers grow rich, their lands grow poor, their crops fail, and they spend their time in hurried, fretful, anxious toil, without hardly securing a comfortable livelihood.

System will also give an air of neatness to a farm, that will not fail to please. In this respect, the owner will seek to copy nature, and exhibit, in every department, symmetry and order. This will be seen in the division of his fields. All will be so arranged as to be easily accessible, fences will be erect, and in straight lines, gates and bars in good condition, and in their proper place, and stumps, and rocks, and all unsightly objects removed. The orchard will be in the right place, and properly cultivated, and the gardens will exhibit not only order and beauty, but the promise of an abundance of the luxuries of life. The dwelling and the fixtures around it, will show their owner to be a man of industry and refined taste. All things will conspire to render the situation an inviting residence, and to put to the blush the careless, ignorant, and chaotic farmer.

Hubert, *in the Plough, Loom, and Anvil.*

## OUR EXCHANGES.

It is truly gratifying to note the changes which the Agricultural and Horticultural Journals of the United States have undergone, within the last few years. Instead of being badly printed, on wretched paper, they are now got up in a style at once neat and attractive, and price considered, altogether better than any other class of journals. Among those now on our table, we notice:

*American Cotton Planter*, edited by N. B. Cloud and Chas. A. Peabody, monthly, Montgomery, Alabama, 48 large octavo pages, handsomely printed, and filled with a variety of excellent agricultural matter.

*Plow, Loom and Anvil*, New York, ably edited by an old friend, Prof. Nash. A decided improvement has taken place in the management of this old favorite under its new editor.

*Magazine of Horticulture*, C. M. Hovey, Boston, monthly, $2 per annum. Well printed on excellent paper, and abounding in choice Horticultural matter. We have made several selections from it in our present number.

*Valley Farmer*, H. P. Byram, editor and publisher, Louisville, Ky., A vigorously conducted and well printed Journal. Published monthly, at $1 per annum.

*Tennessee Farmer and Mechanic*, Nashville, Tenn., J. P. Williams, editor, Dr. H. R. Hodsden, and Col. H. J. Cannon, Assosiate Editors, monthly at $1. A credit to the editors and publishers, and from its neat appearance and excellent contents is bound to succeed.

*North Western Farmer and Horticultural Journal*, Dubuque, Iowa, monthly, $1. Neat in typography, and conducted with ability and spirit.

*American Veterinary Journal*, Boston, edited by Dr. Geo. H. Dadd, $1 per annum, Dr. Dadd's reputation is too well-known to require more than a mere mention at our hands. The Journal, is what every horse owner should have. One number is worth five year's subscription.

*Ohio Cultivator*, Columbus, Ohio, S. D. Harris editor and proprietor. Semi-monthly, at $1 per annum. One of our very best exchanges, always readable, and we are glad to learn, prospering as it deserves.

There are many others which we shall notice in future.

## THE CHINESE SUGAR CANE.

Messrs. Editors: In your March number a correspondent over the signature of "Chester County," very properly suggests that the agricultural journals should give timely information, as to the manner in which the juice of the sugar cane is to be obtained after the cane is matured, &c. From the present and prospective high prices of sugar and molasses, in connection with the favorable reports that have been so widely published in reference to the saccharine qualities of the Chinese sugar cane, it is not at all surprising that there should be a very general wish to experiment with this newly introduced plant.

The results of a great many experiments, mostly, however, in a small way, in converting the juice into syrup or molasses have been published, and thus far, the prospects are favorable over a wide range of our country. The prospects of converting the juice into sugar, as far as I have yet learned, is not very flattering, there seems to be some difficulty about it granulating.

Last year, Col. Peters of Georgia, grew some two acres of this cane, and made from its juice a number of barrels of syrup, in quality fully equal to that of New Orleans. So highly satisfactory was the result of his experiments, that he will enter largely into the business the coming season. In a letter I received from him, dated 22d of last November, he says, "I *know* I can next year make from my best acres, 600 gallons choice syrup to the acre, and am now manufacturing barrels, &c., to grind up some 100 acres of the cane; my plows are now turning over the land to be in fine mellow order by spring. * * * I cannot yet understand why it is that this plant has proved so much better in this country than in France. There must be some peculiarities in the growth of this plant as in Indian corn, where corn does well, the other does equally well. Recent results look as if it can be raised as a paying crop from Maine to Alabama."

Col. Peters has probably had greater experience in this matter than any other man in the country, and his opinions are entitled to all due consideration. Your correspondent, Mr. Libhart, in some of his estimates goes beyond the Col., especially in the amount of seed per acre—this making of 500 gallons of alcohol from the seed grown upon an acre has rather an "ugly look" for the cause of temperance and morality.

Yet, however favorable the prospects may appear in making *sweetening* from this cane, it may not be advisable at present, for the farmers and others at the North to expend large sums in the erection of buildings, purchase of mills, boilers, casks, &c. Yet it may be well for farmers and others in the same neighborhood to "club together," and erect a mill to crush the cane, and procure Russia sheet iron pans, for boiling the juice; these pans require but small outlay for brick work and masonry. Good and tolerably efficient "fixings" can be prepared at a moderate cost, and so constructed as to be readily removed from farm to farm. One or two years' experience would decide the "profit or loss" of the experiment.

The crushing mills of Louisiana consist of three or more iron rollers, from 25 to 28 inches in diameter, and from 4 to 5½ feet long. They are not solid. The thickness of the shell of the rollers made by Leeds & Co., New Orleans, varies from 2¼ to 3 inches, according to size, but these are very expensive.

But I will here give a sketch of some cheaply constructed mills, that answer a very good purpose in the several countries where used. We can have similar ones all over the country, and not run much risk of loss in their erection in case the "sugar and syrup" making business should prove abortive.

The sugar cane is cultivated to a limited extent in Mississippi. By the last census returns it appears that the crop of 1849 was equal to 388 hogsheads of sugar, and about 18,000 gallons of molasses. Many of the most substantial planters making all the sugar and molasses required for their own use, with some to spare to their neighbors. The sugar mills are rude and of small dimensions, consisting in fact, of little more than the rollers for grinding the cane, which are made of seasoned oak timber, and stand generally in the open air; a cheap shed suffices for a protection of the kettles, which are common iron ones.

Lieut. Herndon, U. S. Navy, in his explorations from Lima on the Pacific, across the Andes to Para on the Amazon, in Brazil, in his journal published by order of Congress, frequently speaks of the sugar cane and the making of sugar. So also does Lieut. Gibbon in his journal.

Lieut. H. visited a plantation near Tarma in Peru, and says sugar cane is propagated, not from seed, but from the top joints of the old plants. The average height of the cane is about ten feet, though I have seen a stalk of it sixteen feet.

Two men to cut and two to carry, will supply a mill, which consists of *three upright wooden rollers* in a rude wooden frame. The rollers are cogged and placed close to each other. The head of the middle one extends above the frame, and is squared, so as to allow the shipping on it of a long beam, to the end of which an ox is harnessed, which, walking in a circle gives motion to the rollers. The end of the cane is placed between the rollers and is drawn in and crushed by them, a wooden trough is placed below to catch the juice. Such a mill will yield fifteen hundred pounds of juice in a day. These fifteen hundred pounds of juice will give from two hundred and fifty to three hundred pounds of sugar, which is worth in Tarma twelve and a half cents the pound.

Sugar cane is the most useful and valuable of the productions of that section of the country. The leaves of the cane when green, serve for food for cattle; when dry, to make wrappings for the candy and sugar. The crushed stalk is used as fuel for the oven. The hogs fatten on the foam at the top of the boiling. From the first boiling is made the candy, or brown sugar cake, which is eaten after dinner by almost all classes. It is worth six and a quarter cents in Tarma. From one thousand pounds of the juice, boiled ten hours, is made four hundred pounds of candy.

In the lately published volumes of Commodore Perry's expedition to Japan, I find some accounts of sugar mills, &c., in Lew Chew. These mills consist of three cylinders of hard wood, supported in an upright position by means of a wooden frame. The cylinders are about a foot in diameter, and are arranged in a row, with a mortice between them to regulate the approach and their pressure upon the cane. The central one has a wooden axle or shaft extending through the frame which supports it, to which is attached a curved lever of fifteen feet in length, by which the mill is readily worked. This central cylinder has a row of cogs of hard wood near its upper end, which play into mortices cut into each of the two other cylinders. A single bull or horse is generally used to work the mill, and the animal moves in a circuit of about thirty feet in diameter. The cane is placed first between the central and right cylinders, and before its escape is caught in the hand of the workman, and, being twisted like a rope, is thrust in between the central and left cylinders, by which it is completely crushed and its juice expressed, which flows through gutters into a tub placed in a hole near by. The juice is then conveyed to sheds temporarily constructed for the purpose, and then boiled in *iron pans* containing eight or ten gallons. There is a well executed engraving representing two mills in operation and many other of the manipulations of sugar making. The plate strongly reminds one of an old fashioned mill for grinding cider apples.

From the same work we make an extract on sugar in the Mauritius, formerly the "Isle of France." Before the introduction of guano as a fertilizer, the product was from 2,000 to 2,500 French pounds of sugar to the arpent or French acre, but the increase since the introduction of guano has been so extraordinary as to be scarcely credible. In ordinary seasons the product has been from six to seven

thousand pounds to the acre. About one fourth of a pound of guano to a cane is used; an acre is estimated to contain about 2,000 plants. It is possible that guano may prove a valuable manure for the growing of the Chinese sugar cane.

Success or failure in attempts to make sugar from this cane juice may very much depend upon the soil, manure and period of growth, or age to which the cane has arrived when cut for grinding, numerous and carefully conducted experiments can only decide this. The accounts here given in respect to crushing mills will readily suggest to most persons the economy of seasonably procuring the proper materials for constructing a mill if they intend to cultivate the cane for syrup to any extent—for it is probable that the juice of frozen cane would be worthless for sugar or molasses. Therefore the cultivator should be in readiness to work the cane before it becomes frozen.

LEVI BARTLETT.

*Warner, N. H.*, March 11th, 1857.

## CLOVER SEED.

The shipment of Clover Seed, from this city during the past winter, have been larger, than for many years past, reaching to nearly 30,000 bushels. As a consequence of this unusual foreign demand the price of seed has been steadily on the advance, and at present writing, March 12th, is nearly as high as at the same period last season. As a general thing the seed of this season is not equal to that of last, very much of it being of a very inferior quality. This depreciation in the quality of Clover Seed generally, has been a subject of remark, for several years past, and is deserving attention. We occasionally see a lot of prime, full, plump seed, but much more frequently, lots which no good farmer would venture to sow, not only because of the imperfection of the seed itself, but from the abundance of foul seeds. This latter evil is rapidly on the increase, and argues great carelessness on the part of those who grow seed for sale, and incalculable evil to purchasers, who are not sufficiently careful in their selection. It should be a fixed principle, with every purchaser of seed of any kind, (and particularly clover seed) to reject at any price, such as is not entirely free from hurtful weeds, and every farmer should be sufficiently familiar with the seeds of noxious weeds, to enable him to recognize them at a glance. If this system were pursued, growers of trashy seed would fail to find a market for it—a healthful reaction would take place, and all would be benefitted by it.

# Horticultural.

## HORTICULTURAL NOVELTIES.

Any thing is novel that is new. We have had in the past few years decided acquisitions to our horticulture.

First comes the Chinese Yam. Taking one half that is said in its favor to be true, it must prove invaluable to the country. Although it may not prove as nutritious as the sweet potato, yet its proof against rot and frost will go a long ways to make up for it. We have long felt the need of just such a vegetable, but never dreamed that we should realize it in this "sweat of the brow" land of ours.

Next comes the Hoo Sung. This is a substitute for asparagus, equally as delicious, and yielding much more abundantly. Hoo Sung will be as common in four years as lettuce, and as easily obtained. It is cultivated in drills. The seed stalks before blossoming are the parts eaten.

Next comes the Chinese Sugar Cane. There was never a better time to introduce it than now, when common brown sugar is fourteen cents per pound, and molasses eighty cents per gallon. And it will be introduced; millions of gallons of syrup will be made, where the frost will not permit the sugar cane of the tropics to grow.

Next comes the Chufer, or Earth Almond. This is a pleasant, agreeable nut as a conserve, and no doubt will prove invaluable for hogs.

Next comes the *Pie Melon*. a good substitute for green apples in making pies. From our own experiments with the above novelties, we are inclined to think they will prove of real value to the country. Every thing new is called a humbug until it has become common, then it is a humbug no longer.

Whoever originates a new, by hybridigation, deserves well of his country, and whoever brings to light nutritious edible qualities in neglected, despised plants, deserves equally as well. Hence are few things new under the horticultural sun. All the novelties spoken of above, are but introductions from older countries. Have we nothing among ourselves, neglected as a wilding, that may be domesticated in the garden with profit, for the table? Could the seed of the poke not be imported, with a *high-falutin* name, and sold at a big price? Poke greens would grace every table in the land. Common as they are, there are few esculents superior to them when properly prepared.—*American Cotton Planter and Soil of the South.*

## TABLE GRAPES.

There is a great difference between a fully ripe grape and one that only has the appearance of being ripe. As a general thing, grapes are plucked too soon. The bunches should hang on the vines until the stems have began to shrink. Then the juices have become saccharine, and whatever peculiar flavor the grape may possess will be fully developed.

There is a serious difficulty, however, in the way; a fully ripe grape has so many lovers, beyond the biped family, that it is a difficult matter to preserve them on the vine. They seem to be the natural food of birds, and then the bugs, and wasps, and ants, and every thing else that crawl or creep or fly, will feed upon a perfectly ripe grape. Hence the advantages of grape houses, but in the absence of houses, bags may be made of cheap gauze or thin brown paper, and the bunches slipped in. The bunch should be *apparently* ripe when put in. In this way they will ripen perfectly, and keep longer on the vine than any other way. Those who would enjoy the luxury of perfectly ripe grapes, will be well repaid for the trouble of *bagging* the bunches.—*Ibid.*

## FRUIT CULTURE.

Independent of the pleasure and recreation the culture of fruit affords, it is becoming a source of profit to the Southern cultivator. We often hear it remarked, that every body is going into fruit, and that fruit will soon be a drug in the markets. There is little danger of the markets ever being overstocked with good fruit. Everybody will eat good fruit if it is to be had, consequently the best fruit will always command the highest prices. And then two-thirds that go into fruit culture will fail. Some will plant apple and pear trees, as they would a fence post; others that plant the tree will expect it to grow and produce good fruit, without culture, and others cultivate without skill or judgment. Too much care cannot be taken in planting a fruit tree. Deep planting has ruined many a tree; and after the tree is well planted, it should be nursed and cultivated as judiciously as a corn crop. There is a golden field open to the Southern fruit cultivator, in the markets of the large cities of the North, as we can send them fruit from six weeks to two months earlier than their own ripens. And this, with the increasing demand for home consumption, will make fruit culture the most profitable investment of the farm.

*Ibid.*

## SPIRIT OF THE HORTICULTURAL PRESS.

The following seasonable extracts we make from Hovey's Magazine of Horticulture, one of our most valued exchanges:—

## SPRING MANAGEMENT OF FRUIT TREES.

Manuring.—Every fruit tree must not only be planted in a proper soil and favorable location to expect good results, but the soil must be kept in good condition in their after-culture. For the pear it must be deep, mellow and rich; for the apple equally good, but perhaps not so deep; and for other fruits mellow and friable. The best season, without doubt, for applying manure, is the autumn. It then not only protects the roots from excessive frosts, but allows the soluble substances which it contains to be carried down to the extremities of the roots, where it is needed now that they are in action. But if by any neglect or fear of waste it has not been done, no time should be lost to apply it at once—the sooner the better. If it is old and well decomposed, it is all the better; for fresh strawy manure is not suitable at this season; it will do in the autumn. If there is not a liberal supply, this may be made so by the use of a *small quantity* of guano, (one or two pounds to the tree.) Together they are better than either alone, for the manure acts mechanically, loosening the soil and rendering it more permeable to air and moisture. Let one or both of these be applied immediately, and if the weather continues cool and unfit for tillage, let it lie undisturbed around the tree in a circle of five or six feet, till the weather is sufficiently settled to spade it into the ground. In the meantime it will sustain no perceptible loss by evaporation, as is too often feared, but, on the contrary, its fertilizing substances will be carried down to the roots by the early and invigorating spring rains. In regard to the quantity of manure for each tree, this must depend on its size, and the soil in which it grows. A barrowfull may be given to a tree beginning to bear, and a lesser quantity to those not so far advanced. There is little danger of erring on the wrong side by giving too much.

As soon as the soil is in working condition, it should be lightly dug, working in at the same time the manure previously applied, and which should be given then if neglected previously. After this it is only necessary to keep the soil clear of weeds, and, if a dry locality, mulched with tan, hay, short grass, or even course manure, and the spring work, as regards the soil, is done.

Insects.—These are the pests of the cultivator: when all seems accomplished that he is able to do, these commence their attacks and defeat his calculations. Their name is legion. The stem, the bark, the foliage, the buds and the fruit are alike equal prey. But some are more formidable to subdue than others, while many are less destructive to the trees. Those which require attention now are among the former class, and no time should be lost in destroying them. These are the bark louse and scale, the

former attacking the apple and the latter the pear: both may be easily detected upon the trunks and stems of the tree, where they congregate in such numbers as to literally cover the bark. No tree will long remain in health while they are allowed to continue their depredations.

Fortunate is it that they can be so readily attacked; by the aid of a brush and oil soap or potash, they may, by steady perseverance, be exterminated, or, at least, so diminished in numbers as to be of little harm. Two pounds of potash dissolved in seven gallons of water, is highly recommended by many cultivators as an excellent wash; but we have always used a good thick solution of whale oil soap, scrubbing the stems first with sand and water, if very badly infested, and afterwards applying the soap with a painter's brush, upon every limb where a louse or scale is to be seen. A double application will usually effect our object, if one does not do it. This should be done now, before the trees begin to grow, as it is a more difficult operation when they are in leaf. Such as escape, the present spring, can be overtaken the coming fall, which is also a good time to continue the work. Luckily we have been but slightly annoyed with these pests, but as their presence in ever so small numbers is by no means desirable, we have always made it an especial object to prevent their increase, and have so far succeeded.

The canker worm grub will continue its ascent upon the apples, plums and cherries throughout all the fair weather in March and the early part of April, and the usual precaution of tarring, or some other mode of defence, must be adopted.

In completing the spring work we have but just begun the labor of the year. With the coming of summer the same care and attention must be continued, and other labor performed. But the important duties are those we have laid down. Judicious pruning and liberal manuring, admitting the soil to be properly adapted to the tree, will ensure a certain degree of success, though there are others which succeed that are necessary to the production of the finest fruit. We shall endeavor to follow up our advice as the season shall require additional aid from the cultivator.

We wish to direct the attention of our readers to the advertisement of "The Lawton Blackberry," which has so deservedly obtained a great celebrity. We had a visit a few days since from Mr. Lawton himself, who assures us that the plants are all furnished from his own stock, propagated under his own personal supervision, so that their genuineness can be relied on. Give them a trial.

## QUANTITY OF SEED PER ACRE.

After obtaining the best seed, and properly cleaning it, the next important requisite is to apply it to land that is thoroughly prepared to receive it, and in the proper quantity. The quantity of seed necessary for one acre, varies somewhat with circumstances, according to the strength of the land to be sown, and the comparative size of the grains of any particular variety. The very general practice among the farmers in the West is to sow too little seed, even less to the acre than is deemed necessary by the European farmers, or those of the Eastern States of this Union, where the climate is more favorable to a less quantity than it is with us. In sowing the seed of the grasses, we are sure our Western farmers greatly err in this respect. The following is the quantity of seed we should recommend per acre, viz:

*Wheat*—From six to eight pecks per acre.

*Rye*, Common—Five to six pecks per acre.

*Rye*, Multicole—Two to three pecks per acre.

*Barley*—Eight to ten pecks per acre.

*Oats*—Six to eight pecks per acre.

*Millet*—For hay, from five to six pecks; for seed, one or two pecks per acre.

*Buckwheat*—Two to three pecks per acre.

*Hemp*—Four to five pecks per acre.

*Flax*, for the lint—Two to four pecks per acre, for seed alone, from one and a half to two and a half pecks per acre.

*Clover*—One bushel to six acres.

*Timothy*—One bushel to four or six acres.

*Orchard Grass*—Fourteen to twenty pounds per acre.

*Blue Grass*—Twelve to sixteen pounds per acre.

### ROOT CROPS.

*Sugar Beets*, or Mangel Wurtzel—If put in with a drill, four pounds per acre.

*Turnips and Ruta Baga*—With a drill, one pound per acre.

*Carrots*—Two pounds per acre.—*Valley Farmer.*

## DURHAM CATTLE FOR CALIFORNIA.

Messrs. B. & C. S. Haines, of Elizabeth, N. J., have just made a shipment of Short Horns to Geo. H. Howard, of San Francisco, the first of this breed of cattle sent to that State. The lot embraces one bull, two years old, and one about six months; and two heifers a year and-a-half old. We shall look with much anxiety for the success of this first undertaking to introduce improved cattle into that great State, so well adapted to the business of stock raising.

NORTHERN MUSCADINE GRAPE ROOTS.—The subscribers have during the past twenty-five years, devoted much time to Grape Culture, both in setting all the new and hardy kinds, grown in this country, and in producing new varieties, and for the last 15 years the EARLY MUSCADINE has, either for making wine or as a table grape, yielded ten dollars profit to one from any other variety. It ripens in September, nearly a month earlier than the Isabella or Catawba, is perfectly hardy, successfully resisting the severity of our northern winters without any protection. The fruit is delicious, and has been pronounced superior to either the Isabella or Catawba.

As many grape roots have been imposed on the public under the above name, the subscriber will not be responsible for the genuineness of any not purchased from him or his legally appointed agents.

All orders addressed to Jesse Lewis & P. Stewart, with the money enclosed, shall receive prompt attention, and the roots forwarded by express according to directions, prices varying from one to five dollars per root, according to age and size.

JESSE LEWIS,
P. STEWART.
*New Lebanon, Shaker Village, Columbia Co., N. Y.*

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MAKE HONEY AND THEREBY MONEY. Since the days of Aristotle, 2200 years ago, mankind have been seeking for a properly constructed Hive and a rational system of managing the Bee. Without exception, every effort has proved a failure, until the Rev. L. L. Langstroth, of Philadelphia, introduced his movable Comb Hive. As none should purchase a Hive unless he examines into its character, this advertisement is intended only to call attention of Bee keepers to it. Mr. Langstroth has in Press the 2d edition of his work on the Bee, 500 pages, with many costly engravings, which will be ready to mail in a few days.

**A PROPOSITION!**—I will send the book to any order containing 25 cents, (the late law rendering compulsory the pre-payment of postage,) to pay postage: if the Book meets the approval of the recipient, he may remit me the price $1 25; if the contrary, the book may be returned to me, and I will reimburse the postage both ways. I have published a small but important work on the Bee, &c., which I will forward on the receipt of 6 cents or two stamps.

Individual rights to make and use the Hive, with Drawings of Five Classes of Hive, costing from 50 cents to $5, accompanied with Bill of Stock, &c., $5. Township, County, and State Rights sold low.

P. J. MAHAN, APIARIAN.
Mar.—3t No. 186 Chestnut Street, Phila.

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CHINESE SUGAR CANE direct from France. A very superior article. Wholesale or retail.

BOAS, SPANGLER & CO.,
New Agricultural Warehouse,
No. 627 Market St. below 7th, Phila.

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KING PHILIP CORN, from the premium crop of 167 bushels to the acre, at the New Seed and Implement Warehouse, No. 627 Market St. below 7th, Phila. BOAS, SPANGLER & CO.

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LONG ORANGE CARROT, White Sugar Beet, Purple Top and Ruta Baga Turnip, Long Red Mangold Wurzel, at the New Implement and Seed Store, No. 627 Market Street, below 7th, Philada.

BOAS, SPANGLER & CO.

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# SUPER-PHOSPHATE OF LIME.

The subscribers present to the notice of Farmers and others interested, the above article. The excellency of our preparation has been so well known for many years past, that we deem it unnecessary to say much in respect to its merits, but merely remark, that during a long series of years, its purity and value as a stimulant for the growing crop, and as a

**PERMANENT MANURE**

Have been thoroughly established,

*Our Super-Phosphate of Lime* is not changed in its character every season, but is what it purports to be, uniform in its chemical constituents, and is relied upon as the

BEST FERTILIZER IN USE FOR

**CORN, OATS, WHEAT, POTATOES, GRASS,**

and other crops requiring a vigorous and lasting manure.

Pamphlets describing it, and the mode of applying, can be had gratuitously at our stores, or by mail when desired.

CAUTION.—Be particular to observe that every barrel of our article has *our name and that of Potts & Klett* branded on the head. This *Caution* is rendered necessary, as there are so many articles of doubtful value sold under the name of *Super Phosphate of Lime*, as to mislead those who are unacquainted with the value of a

**GENUINE ARTICLE.**

**PRICE $45 PER 2000 LBS. (2¼ cents per lb.)**

A liberal deduction made to DEALERS.

Since last fall there has been imported but *one cargo* of the celebrated

PACIFIC OCEAN GUANO,

Which we offer for sale in small lots.

**FISH MANURE.**

A supply of this valuable article for sale.

**PRICE $30 PER 2000 LBS. (1½ cent. per lb.)**

**No. 1 Government Peruvian Guano**

For sale at the lowest rates.

*The leading Agricultural Journals and Newspapers are regularly filed at our office for the use of Farmers.*

**ALLEN & NEEDLES,**
**No. 23 S. Wharves, and 35 S. Water Street,**
First store above Chestnut St., Philada.

☞ *Goods can be loaded at either front of our Warehouses. Farmers are recommended to drive to Water Street and avoid the crowded wharf. Ample facilities are afforded in loading Wagons and attending to the Horses.* April—2 mos.

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C. H. LAME.—Manufacturer of Mowing and Reaping Knives of every description, also Sausage Knives, Paper Knives, Saws, Springs, &c., made to order. Repairing attended to, No. 33 Cherry street, above Fourth, North side, Philadelphia. Apl—1t

THE LAWTON BLACKBERRY.—Mr. Charles Downing the well known fruit grower and nurseryman, offered the following unsolicited testimony in the columns of the Agriculturalist under the Editorial care of P. Bowery, Esq., in the summer of 1854.

"Having heard a good deal said about the Lawton Blackberry, for the past year or two, and knowing that many of the new fruits were overpraised, I made a special visit to Mr. Lawton's a few days since, to see for myself, and I can assure you I was well paid for my trouble. There is no humbug about it; and the only wonder is, that it has not been more generally introduced and propagated before. The fruit is large and sweet. It is an enormous bearer indeed, the quantity (considering the large size of the fruit,) surprised me, and the berries were perfect. Mr. Lawton informed me that they continue in bearing five or six weeks, and in favorable seasons much longer. He has some two or three acres, and will have plants to dispose of in the fall and spring. The latter, however, is the most preferable time for transplanting. Plant as early as the ground is in good working order.

In the American Institute Farmer's Club, not long since, Judge Van Wyck proposed the following resolution, which was unanimously adopted:

"Resolved, That the Farmer's Club of the American Institute, highly approves of the efforts made by William Lawton, Esq., of New Rochelle, to cultivate, improve and spread that most valuable Blackberry spoken of to-day, and that he has presented to this Club at different periods both this season and the last, most liberal specimens of this blackberry, so that every member (and they were sometimes fifty in number nearly,) could not only gratify his sight but his palate, with eating as many as he pleased, and thus be qualified to judge in every stage and season of their growth, their superior qualities as regards size, flavor and succulency, and also their constant improvement each year under his management; and that we do hereby earnestly and decidedly recommend the LAWTON BLACKBERRY, AS THE CLUB HAS CORRECTLY NAMED IT, to public notice and patronage."

Having greatly enlarged my stock of Plants by carefully propagating from the variety referred to in the above testimonials, I am enabled to furnish them in the usual packages at reduced rates, viz.—A package of half a dozen, $2; a package of one dozen, $3; a package of two dozen, $5; a package of fifty Plants, $10; a package of one hundred Plants, $18. No additional charge for package. The money should accompany the order with name and directions distinctly written.

Address—
WILLIAM LAWTON,
54 Wall street, New York, or New Rochelle, N. Y.
Apl—

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A CALL TO ALL FARMERS!—*Farmers, drop your Tools—Pause a liitle—Read this and Reflect!!—The Farmer's Promotion Book—A new and Scientific Manuring system*, for the cultivation and increase of all kinds of grain, grasses, fodder and pasture, upon all kinds of soil,—proved by actual experiments and based upon evident truths, designed to improve agriculture in all its branches, represented by upwards of one hundred and fifty engravings of the most valuable grasses and plants connected with the system, by Dr. C. G. REINHOLD, of Boalsburg, Centre county, Pa.

In this treatise it will be seen that the object has been to give the farmer that kind of information which enables him to make practical application to fertilize his land and increase his grain, fodder and pasturage. The doctrines, as taught by this manuring, and fodder, and pasture cultivation system are rational, clear and evident, and suggest an improvement in the mode of agriculture hitherto unknown to our farmers, and which, if adopted and carefully practised, cannot fail to advance the interests of the farming community. Such a work has been much wanted, as it fills a void which has long been felt, but which there has hitherto be no attempt to supply. And as farmers of Centre and Huntingdon counties, we recommend the work to every farmer, as we fully believe that they will reap the greatest possible benefit from it.

Christian Dale, George Boal, Jacob Musser, John Bailey, Samuel Duncan, Jonathan M'Williams, George Guyer, jr., John Carper, John Hasson, Samuel Wilson, Christian Hoffer, George W. Meek, George Buchanan, Daniel Musser, Francis Alexander, John Neff, sr., John Hoffer, Jacob Meyer, Henry Meyer, Samuel Gilliland, George Jack, John Herman, Joseph Baker, Philip Meyer.

The Book will be sent to any address, post free, on receipt of ten dollars. Address,

C. G. REINHOLD,
Apl— Boalsburg, Pa.

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FRUIT AND ORNAMENTAL TREES,—including Evergreens, the finest collection in the Union. 1700 *lbs. Chinese Sugar Cane*, and also parcels of 8000 seeds, post paid, for $1.25. *Chinese Imperial Rice White Potato*, the most valuable of all esculents, the only ones for sale of *American growth*, at $3 00 per dozen, $5 00 for 20, $20 00 per 100. Osier Willows, 8 finest kinds, $2 to $5 per 1000. Lawton Blackberry, $18 00 per 100, $3 per dozen. Grapes, Gooseberries, Raspberries and Currants, at lowest rates. Linnæus and Victoria Rhubarb, $9 00 per 100. Arbor Vitæ, small for hedges and large size. All Evergreens of small sizes for nurseries. All the new Native Grapes. Tree and Shrub, Vegetable, Flower, and Evergreen Tree seeds. Earth Almonds. Yellow and Honey Locust, and Osage Orange seeds. Strawberries, 20 splendid market varieties, $1 to $2 per 100.

Priced Catalogues of every department, sent to applicants who enclose stamps.

WM. R. PRINCE & CO.,
Apl— Flushing, N. Y.

HORTICULTURAL TOOLS.—A large assortment of fine Horticultural Tools, consisting in part of superior Spading Forks, Hedge and Garden Shears, Border Knives, Scuffle Hoes, Pruning and Budding Knives, Bill Hooks, Grafting and Pruning Saws and Chisels, English Lawn Rakes, Garden Trowels, Grass Hooks, Lawn Scythes, Pruning Scissors, &c., at wholesale and retail.

PASCHALL MORRIS & CO.,
Implement and Seed Store, 7th and Market, Philada.
Apl—

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AGRICULTURAL IMPLEMENTS.—The largest assortment of Plows, ever offered in Philadelphia, consisting of *Eagle*, *Blaker*, *Prouty*, *Subsoil*, *Side Hill*, *Peekskill* and *Star* Plows; also Expanding Harrows of various sizes, Square and Geddes' Harrows, Expanding Cultivators, for field and garden, hand plows, farmer's boilers, barn door rollers, wheel and canal barrows, ox yokes and bows, hay, straw and fodder cutters, cast iron rollers of various sizes for field and garden, revolving horse rakes, seed drills, grindstones, premium Star corn shellers, of different sizes, Reading's power corn sheller, grain fans, hay and manure forks, picks and mattocks, draining tile, &c., with all other implements needed by the farmer or gardener.

PASCHALL MORRIS & CO.,
Implement and Seed Store, 7th and Market, Philada.
Apl—

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GARDEN AND FLOUR SEEDS.—Early and late Peas in great variety, early Beet seed, Cauliflower, Brocoli, Kohl Rabi, Bush and Pole Beans, Lettuce, Long Orange Carrot, Field Parsnip Seed, Sugar Beet, Mangold Wurzel, Raddish, early and late, Swiss Chaw, &c. Also, a fine assortment of European and American Flower Seed, and 20 choice varieties in boxes for $1 00, $9 00 per dozen.

PASCHALL MORRIS & CO.,
Implement and Seed Store, 7th and Market, Philada.

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FRESH CLOVER AND TIMOTHY.—English and Italian Rye Grass, Herd Grass, Orchard Grass, Kentucky Blue Grass, White Clover, Lucerne Crimson Clover, sweet scented Vernal Grass, at wholesale and retail.

PASCHALL MORRIS & CO.,
Apl— 7th and Market, Philada.

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FERTILIZERS FOR FIELD AND GARDEN.—1000 barrels Poudrette from the Lodi Manufacturing Co., New York. Having received the sole agency in Philadelphia, for this valuable fertilizer, we can supply orders at wholesale and retail. For corn in the hill, or for garden crops, it has been found very superior. Also for sale, Bone dust by the ton, superphosphate of Lime, Plaster, &c.

PASCHALL MORRIS & CO.,
Apl— 7th and Market, Philada.

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NEW SEEDS.—Prime Sugar Cane Seed, by the pound or smaller quantity. Also, Japan Peas, Orange Watermelon, early Winningstadt Cabbage, a new and very superior early variety just introduced. Also, Shilling's Queen, Spotsboro' early Ox Heart, and other fine varieties of Cabbage seed Early olive shaped Radish, Wood's early frame Radish; together with a large assortment of fresh and genuine garden seeds.

Orders for the trade at a liberal discount, supplied either in bulk or papers.

PASCHALL MORRIS & CO.,
Implement and Seed Store, 7th and Market, Philada.

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KETCHUM'S MOWER AND REAPER.—We are now receiving orders for Ketchum's combined Reaper and Mower, of improved construction since last year. They have been fully tested for several years past, and are believed to be better adapted to the wants of the farmer than any other machine in the market. They are warranted to cut 10 to 15 acres of grass or grain in a day, as well as it can be done with a scythe or cradle.

PASCHALL MORRIS & CO.,
Apl— Implement and Seed Store, 7th and Market.

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SUPERIOR POLAND OATS,—weighing over 40 lbs. to the bushel, in store and for sale, by

PASCHALL MORRIS & CO.,
Apl— Implement and Seed Store, 7th and Market.

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**PLOWS, CULTIVATORS, KNOX'S HORSE HOES, &c.**

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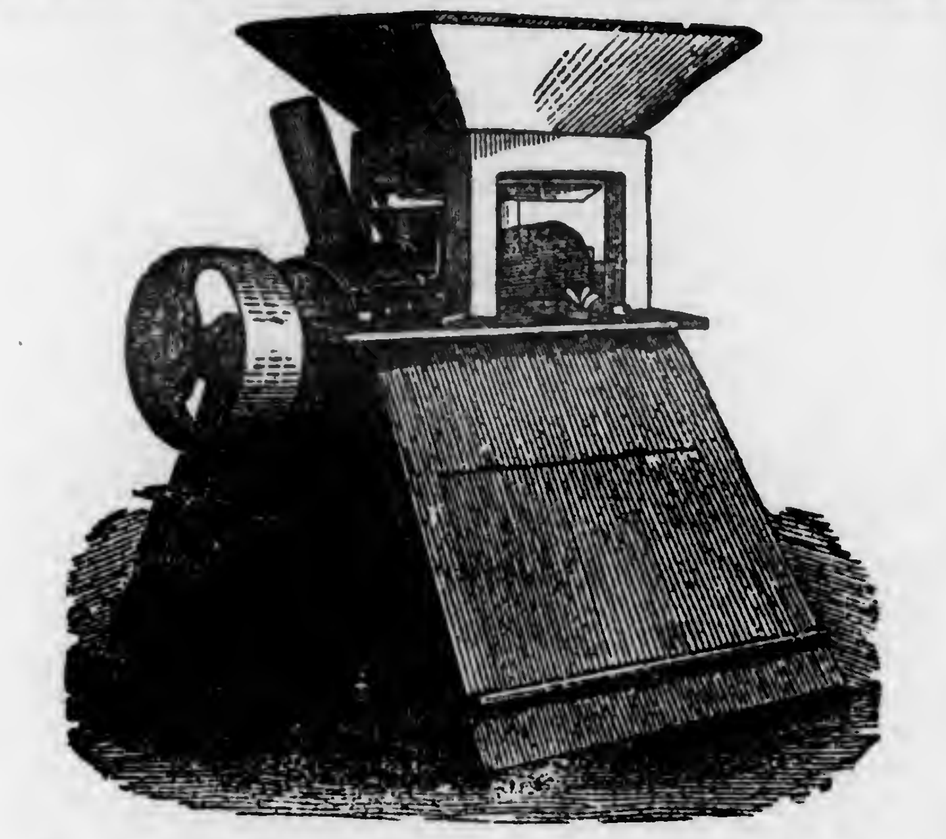

This is the most efficient, simple and durable FARM MILL now in use, and it precisely meets the wants of the farmer, as it is not only adapted to

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**SHELLED CORN, WHEAT, RYE OR OATS,**

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| 1st | do. | do. | Berks | do. | do. | do. |
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☞ All Mills sold are warranted to give satisfaction. We are manufacturing three different sizes. Prices—No. 1, for hand power, $10.00; No. 3, for two-horse power, $50.00; for steam or water power, No. 4, $60.00. A liberal discount made to dealers.

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Over five years have elapsed, and I still remain a perfectly hearty man at this date, June 2d, 1856 I have not had a day's sickness for the last eighteen months. Please accept my grateful acknowledgments. Yours, very respectfully,

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# CORN AND COB AND MEAL MILL.

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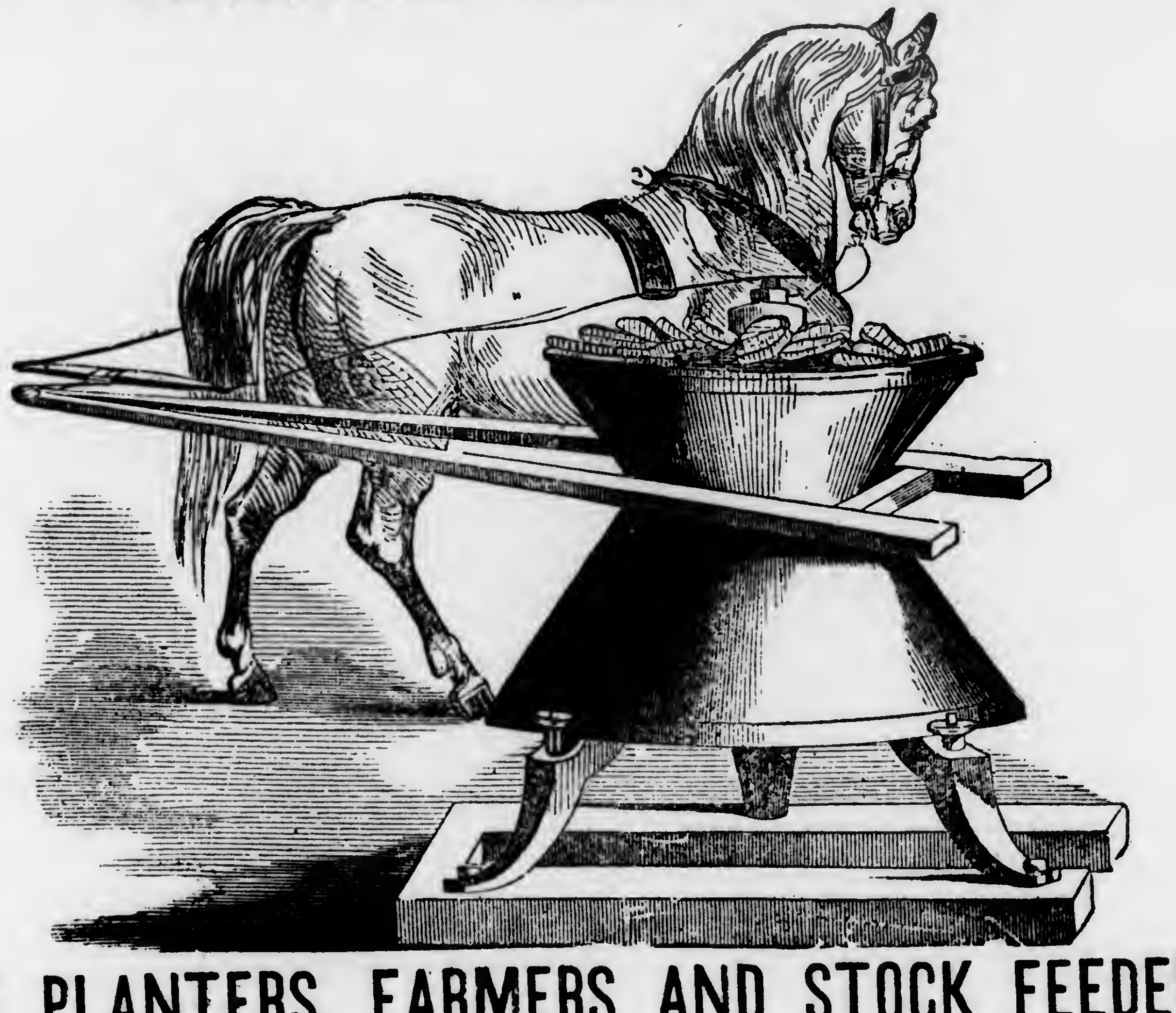

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Your attention is called to this celebrated Mill, which has received the approbation of the public at the various State and County Fairs, 1856, and which has taken the first Premium over all other Mills at the following State and County Fairs:

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| MARYLAND, . . . . | 1856 | MICHIGAN, . . . . | 1856 | TEXAS, . . . | 1856 |
| NEW JERSEY, . . . | 1856 | GEORGIA, . . . . | 1856 | MASSACHUSETTS, . . | 1856 |
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The construction of this Mill, and which renders it superior to others, are these:—It grinds Corn and Cob finer, requires about one-half the amount of power of other Mills, and by the use of Friction Rollers at the base of the outer Shell, it prevents the fine teeth coming in contact, (which they do in other Mills); and after YEARS of use, can be repaired at an expense of $3.00, making it equal to a new Mill. It is not injured if worked when empty. These facts and the superior Castings, make this Mill, beyond all doubt, superior to all others.

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**CRESSON, STUART & PETERSON,**
**Willow Street above Thirteenth, Philadelphia.**

**PASCHALL MORRIS & CO.,**
AGENTS FOR THE ABOVE MILL,
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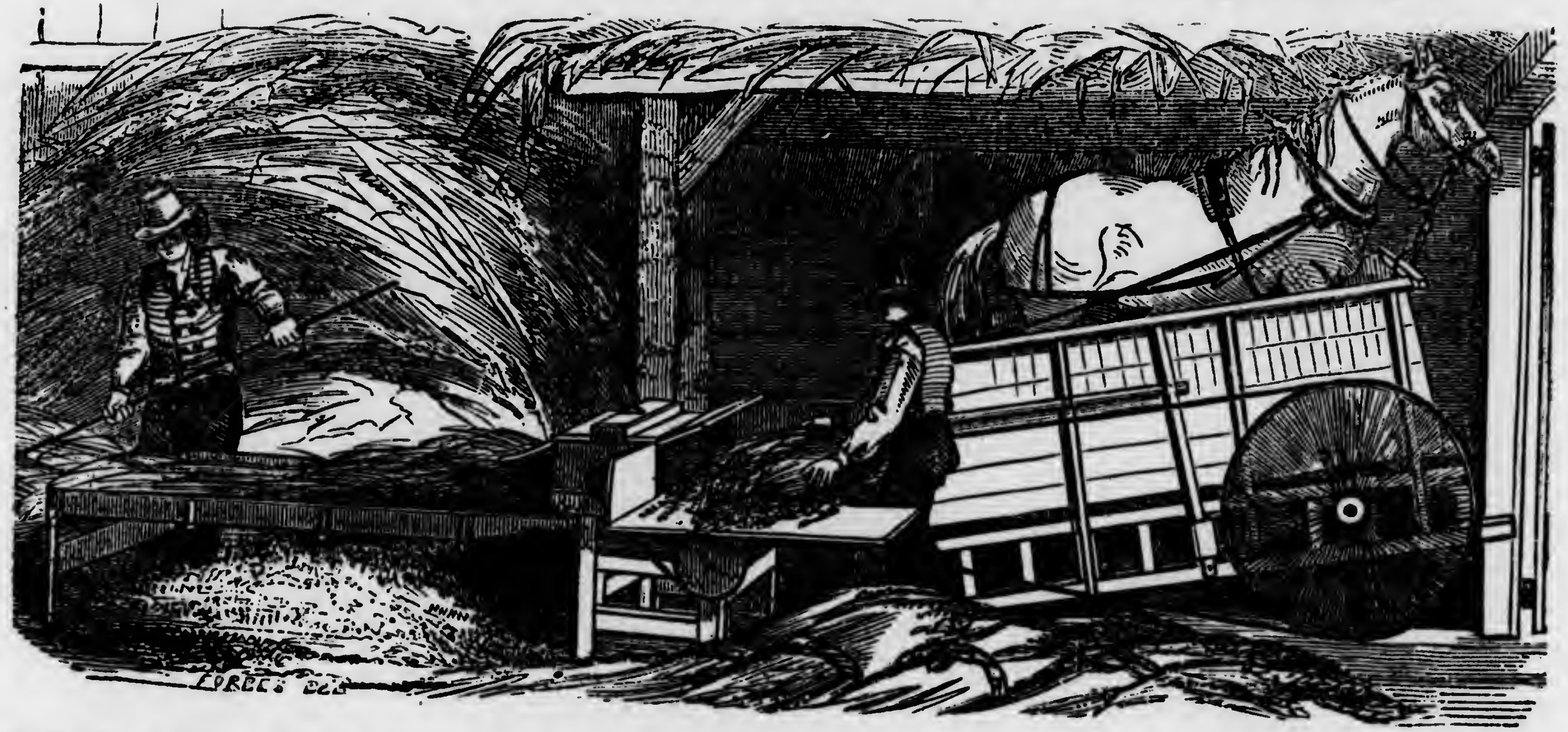

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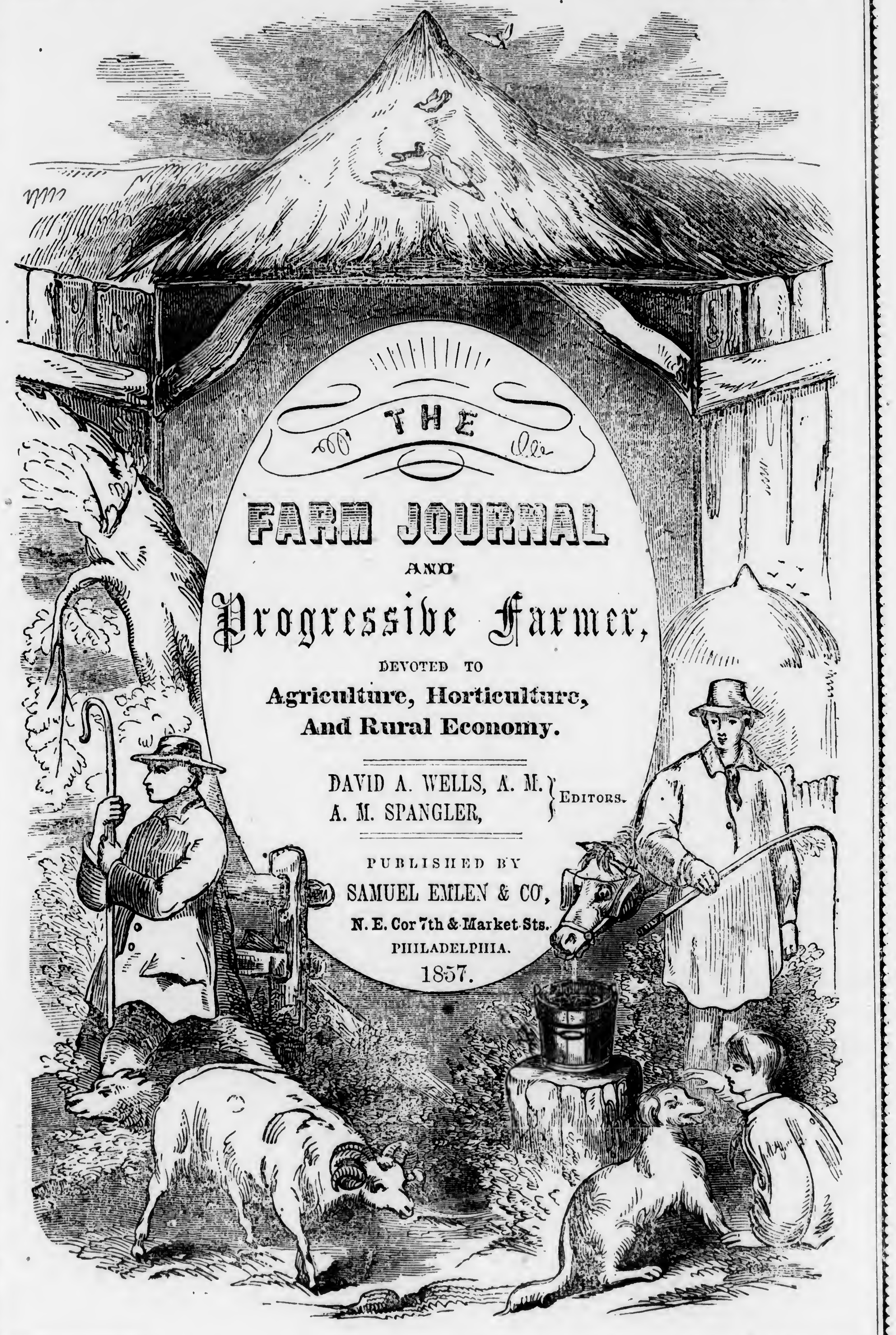

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THE
FARM JOURNAL

VOL. VII. PHILADELPHIA, MAY, 1857. No. 5.

Written for the Farm Journal.

## ON THE DISEASES OF PLANTS.

BY HARLAND COULTAS.

*Canker and Gangrene.*—(CARIES, CARCINOMA.)—These two diseases have by many writers been confounded with each other. They are nevertheless two distinct diseases, arising from causes totally different, although they singularly resemble each other, in the visible effects which they produce.

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No species of tree is secure from this disease, yet some are more and others less disposed to be thus attacked. Pear trees, by reason of the more solid texture of their bark, less than apple trees; trees raised from seed in the nursery, less than those obtained wild from the woods, or from suckers, the roots of which have been injured.

The causes which develope this common and almost incurable disease are manifold. It may arise—

1. From injuries in digging up the roots, or an improper separation of the sap root and the root fibres in transplanting. The stem then seeks to develope roots in order to renew itself upwards; this causes an arrest of the ascending sap, whereby the upper part of the tree is injured, especially if the crown has not been curtailed proportionally, and is of greater extent than the root.

2. Through the insertion of grafts in the stock. In a growing tree the most powerful current flows to the best shoots; and good grafts necessarily attract the sap to themselves and withdraw it from other parts, which thus have a tendency to become diseased.

3. Ill treatment of the tree and its finer branches through unsuitable pruning; laceration of the inner layers of bark and alburnum, for wounds on the outer bark are quite harmless.

4. Early frosts, if they occur whilst the vessels are yet filled with sap.

5. The soil, if it is wet, sour, stony, or otherwise unfruitful. The sap root of trees which are so unfortunate as to be unsuitably located in a stony soil, instead of descending perpendicularly, takes a horizontal direction, the medium in which the least resistance is encountered, and putting forth few root fibres, a want of nourishment and arrest of sap originates, and suitable conditions for the development of canker in the tree are thus produced.

6. Trees which have been transplanted from a nutritious soil into a bad one, are especially liable to the attacks of canker. Wherefore, young trees taken from a bad soil, if they are healthy, thrive better in such a soil than those which have been taken from rich, nourishing ground.

The only sure means of healing canker and preventing its further diffusion, is to cut off the diseased part as far as the sound wood. But if it be necessary to preserve the branches seized by canker, or if the disease shows itself in the stem, the carious or canker-bit part must be cut out. Nevertheless, it is not so easy to cure the wound thus produced; for the new deposit of bark and the wood beneath it are always in some measure carious, so that it is necessary to protect the wounded surface by bring-

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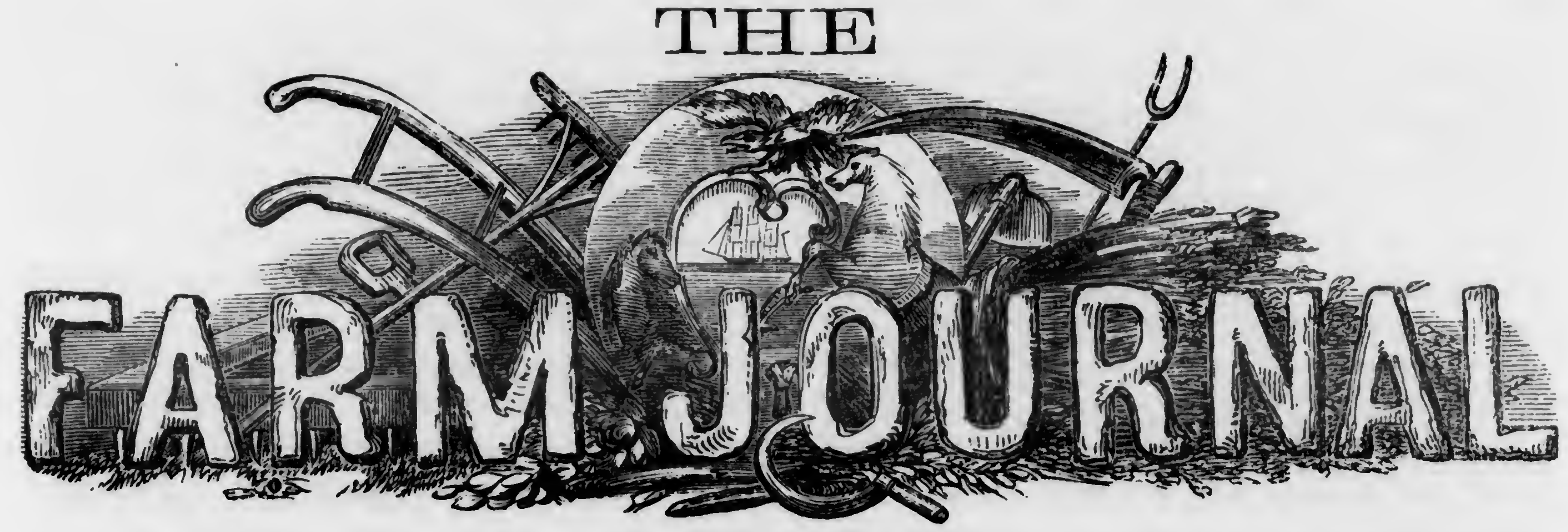

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1. From injuries in digging up the roots, or an improper separation of the sap root and the root fibres in transplanting. The stem then seeks to develope roots in order to renew itself upwards; this causes an arrest of the ascending sap, whereby the upper part of the tree is injured, especially if the crown has not been curtailed proportionally, and is of greater extent than the root.

2. Through the insertion of grafts in the stock. In a growing tree the most powerful current flows to the best shoots; and good grafts necessarily attract the sap to themselves and withdraw it from other parts, which thus have a tendency to become diseased.

3. Ill treatment of the tree and its finer branches through unsuitable pruning; laceration of the inner layers of bark and alburnum, for wounds on the outer bark are quite harmless.

4. Early frosts, if they occur whilst the vessels are yet filled with sap.

5. The soil, if it is wet, sour, stony, or otherwise unfruitful. The sap root of trees which are so unfortunate as to be unsuitably located in a stony soil, instead of descending perpendicularly, takes a horizontal direction, the medium in which the least resistance is encountered, and putting forth few root fibres, a want of nourishment and arrest of sap originates, and suitable conditions for the development of canker in the tree are thus produced.

6. Trees which have been transplanted from a nutritious soil into a bad one, are especially liable to the attacks of canker. Wherefore, young trees taken from a bad soil, if they are healthy, thrive better in such a soil than those which have been taken from rich, nourishing ground.

The only sure means of healing canker and preventing its further diffusion, is to cut off the diseased part as far as the sound wood. But if it be necessary to preserve the branches seized by canker, or if the disease shows itself in the stem, the carious or canker-bit part must be cut out. Nevertheless, it is not so easy to cure the wound thus produced; for the new deposit of bark and the wood beneath it are always in some measure carious, so that it is necessary to protect the wounded surface by bring-

INTENTIONAL SECOND EXPOSURE

ing it in contact with a cement which has remedial properties. This cement may be prepared by mixing together sixteen parts of cow-dung, eight parts lime from an old building, eight parts wood ashes, and one part of river sand. We lay this cement on the wound and cover it with powder, which consists of six parts of wood ashes, and one part of burnt bones. This cement crumbles under the influence of the heat and moisture of the atmosphere, and requires to be frequently renewed.

Another cement, which has been found serviceable, consists of a preparation of tar and powdered charcoal, which is spread over the wound, and afterwards covered with dry earth. That this cement possesses remedial properties, is evident from the fact that creosote is present in the tar, which is endowed with powerful antiseptic qualities. We therefore can recommend it unhesitatingly as a covering for wounded trees.

*Gangrene*, (CARCINOMA.)—This disease is very similar to canker in appearance. It arises from an excess of sap, which is produced when a tree is transplanted from a dry and barren soil into one that is moist and nutritious; or if the roots of the tree are too strongly manured. In this case the vessels of the plant which are not able to elaborate into sap the excess of fluid absorbed by the roots from the soil, put forth from the stem and the branches superfluous shoots, the cellular tissue of which is often, especially during midsummer, ruptured, through being overfilled with sap. This disease may be therefore observed to advantage in autumn. The parts of the stem affected with it are moist, the bark being covered with a black, soot-like envelope. The next year the bark becomes dry, wrinkled, and falls from the stem and branches, which become withered and dead. Gangrene, occasioned by an excess of sap, results from the powerful rupturing of the bark, the fissures usually extending deeply into the alburnum. An open wound is thus produced, and the oxygen of the atmosphere acts on the sap contained in the tissues, and changes it into an acrid, burning fluid.

The surest means of preventing gangrene, is to take the precaution in planting the tree, if the soil is rich and humid, to prepare an outlet for the excess of sap. This is done by the so-called bleeding process. In early spring, the bark of the tree must be cut longitudinally with a sharp garden knife, on either side of the stem. If the gangrene arises from overmanuring, or from the richness and humidity of the soil, the tree must be removed to one that is drier and purer. To cure gangrene, the tree must be subjected to the same treatment adopted in the removal of canker.

[To be Continued.]

## REAPING AND MOWING MACHINES.

MESSRS. EDITORS,—As the season is approaching when farmers will be called upon to select reaping and mowing machines, a word in regard to these important adjuncts to haymaking and harvesting, may not be inappropriate.

It is a conceded fact that of no machines for farmers' use, has there been so many patterns, or so many attempts at improvements, and it is as fully admitted that in no other department of farm machinery has there been more decided failures. It appears to me that the true *principle* of the mowing machine was conceived by the early inventors, and that subsequent attempts at improvements have been directed not so much to the great essentials of a reaping or mowing machine, as to minor details, which, while they to a certain extent form a necessary part of a good machine, are far from possessing the merit usually attributed to them.

To illustrate my meaning; one of these *improvers* bases the claims of his machine upon the fact of his being able to raise or lower it a minute or two quicker than can be done with some of the older machines. Another asserts the superiority of his machine over all others simply because he can throw it in and out of gear a little more readily than some others. Now I will not pretend to say that such points as those named are not desirable, because they are; but I do say that they are not of sufficient importance to be *the* sole inducement to purchase, particularly when they are secured, as is too often the case, at the expense of simplicity and durability.

There are three points essential to a good reaper and mower. The first is *simplicity*. After years of close examination, I am thoroughly satisfied that the very best machines we have ever had, are those in which simplicity in every part is a marked characteristic.

A second part is *durability*. Almost every new inventor claims superiority for his machine because of its *lightness*, and consequent *weakness*. Now *weight* is as essential to the *effectiveness* of a mowing machine, as it is to its strength and durability. It is simply folly to assert that a light, flimsy machine will do its work as well, or last as long as a reasonably heavy one. A mowing machine, generally speaking, has that kind of work to do, which to be well done, requires steadiness in all its working parts. The machine that trembles when in operation, can neither do its work well, or do it for any length of time without damage to the machine itself. And yet we find many farmers losing sight of these important points, and taking hold with the utmost avidity, machines possessing the very equivocal recommendation of being several hundred pounds

lighter in their working parts than others, the merits of which have been satisfactorily established by years of time. This search after light reapers and mowers has been productive of the worst consequences; and as much, perhaps, as any other cause, has served to retard the more general introduction of these great labor-saving machines into use.

A third point is *effectiveness*. Sufficient experience in the construction of reapers and mowers has already been had to enable the farmer to select a *good one* without any difficulty. Amid the multiplicity of machines which have been presented to the farmer's notice, only three or four have survived more than a single season. Millions of dollars have been expended in the manufacture of new and improved machines, and millions more have been lost by the farmers, who, in their eager anxiety to secure the "*latest improvement*," have given the "*good old ones*" the slip, and risked their money, their time, and their crops upon the "*flashy new*." This may seem like strong talk, but it is nevertheless the fact, and every one at all familiar with the extent of mowing and reaping machine manufacturing in the United States; and the immense number of failures to give even partial satisfaction, will sustain my assertion. I have frequently met with inventors so sanguine of success that they risked every dollar they could raise upon the merits of their respective machines. Large numbers were built, large numbers were sold, large numbers proved worthless, and were thrown back upon the hands of the unfortunate inventors, and the result has been that large numbers of worthy and ingenious men have steeped themselves in poverty, merely because they had such implicit confidence in their inventions as to invest their all upon what appeared "a *sure thing*" in theory; but which stubborn practice proved wholly worthless.

I would not have your readers suppose from what I have written that I do not appreciate the efforts of ingenious men. In my admiration of mechanical ingenuity and talent I yield to no one; but there is a difference between admiring the works of ingenuity, and encouraging the inventor to plunge himself into an abyss from which, as is too often the case, he never extricates himself. I merely wish to suggest to farmers, as well as inventors, not to trust too much to theory. A machine that has merit beyond any others will as certainly find its way into general use as that water will find its level. Take the history of every successful machine, and you will find that it worked its own way into public favor. Not all the wealth of Croesus could sustain a poor machine any length of time, if better ones were in the field. Men may be deceived for a season, but the good common sense which belongs to the farming community generally, will eventually turn, as it always has done, to the *best*.

Allow me, therefore, to suggest to such of your readers as may intend purchasing a reaper or mower the coming season, not to lose sight of the three features I have named; viz., simplicity, durability, and effectiveness. Their own judgment will enable them to determine the first two points; the third can be demonstrated by that best of teachers, *experience*. It is for them to say whether they will profit by the experience of others, and select such machines as have been already tried and found good, or whether they will purchase their experience, as others have done before them, and run the risk of getting a good or worthless machine as the case may be. RUSTICUS.

*April* 13, 1857.

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*Editors of the Farm Journal:*

Your April number contains an interesting letter from Mr. Levi Bartlett, whose efforts in aiding the progress of agriculture are well known, in relation to the cultivation of the Chinese Sugar Cane; permit me to occupy space sufficient to illustrate some points of importance, which so far as I have read have not been considered in this connection.

Writers call this plant, "sugar cane," which it is not; the family to which it belongs, includes the grasses, botanically it is only a neighborly cousin of any variety of sugar cane.

This fact would have little importance, were it not illustrative of the uniformity of a natural law, operating in relation not only to form and organs, but also in respect to secretions. Both agriculturists and men of science occupy a common ground of interest in learning this law and in adapting their pursuits to it.

Chemists have long since studied the subject of sugar, and their classification includes a large number of varieties, the more characteristic of which only will be alluded to here.

First in importance, is the kind called *cane* sugar, because early found in the varieties of sugar cane. It exists in the partially dried, ripe cane, in the form of colorless brilliant crystals, easily seen without aid, but under a lens, or microscope, it appears with almost diamond-like brilliancy, in clear sharp-angled crystals. In the beet root, the sugar maple sap, the sap of the maize, of the date palm tree, the water melon, and a great variety of tropical fruits, this kind of sugar is found, and from these, with a few other unimportant sources, the world's supply of sugar is drawn.

Second in importance, is the class of sugars known to chemists as glucose, it includes the sugar of grapes, of fruits and *grasses*, and it is manufactured from starch, from grain, from potatoes, and generally all those bodies which contain starch. Chemists make it from linen, cotton and finally from saw-dust; the human system from food, and the disease called diabetes causes its formation from food and tissues. This sugar appears in two states, finely shown in dried grapes or raisins, when kept in a dry place. The recently dried fruit contains a syrupy sugar, which by a molecular change becomes granular, and assumes a dry condition in candied raisins. It is important that the distinction between cane sugar and glucose should be carefully considered. Cane sugar is the only kind of sugar which forms the food of man, as an addition to other articles of food, and is derived from different sources, dependent on climate, character of population and season. In the tropical climates the cane product alone is regarded, and with a fertile soil, and industrious population, the cost is astonishingly low. The market price for fair sugar under these conditions, for a number of years being two and one-half dollars the hundred pounds, at the place of production. Beet roots are cultivated for cane sugar in Europe, under the fostering care of governments and when we consider the extent of the cultivation, the importance of the products apart from the sugar, and the scientific skill involved in the manufacture, we experience the highest gratification. The product of our own forests, has an economical importance, engages labor at a season when it is abundant, and encourages an amount of domestic and social enjoyment, which results in more benefit than the money value of the product. Both these sources may be commercially considered as insignificant. The beet root contains in its best condition $10\frac{1}{2}$ per cent. of sugar, of which about $5\frac{1}{2}$ per cent. may be obtained. Taking the estimates for some past years, the cane sugar of the beet, must sell for about ten dollars, per hundred pounds, to repay expenses; where labor, land and interest, are all items in favor of the producer.

The sap of the maple tree, yields about $4\frac{1}{2}$ per cent. of crude sugar; under the circumstances the work of production, cannot be satisfactorily stated.

It is when we contrast the productiveness of the cane with these sources of supply, that we become convinced of its superiority. The cane of the islands not highly favored, consists of 90 per cent. of juice, and contains more than 18 per cent. of sugar, where it sustains itself without replanting for twenty years.

Taking the Chinese sugar cane fully matured, and subjecting it to the microscope, we find its sugar cells perfectly formed and filled with a syrup. It is only under peculiar conditions, that any other form of sugar is seen. By nice chemical means we can abstract the whole of the sugar from the ripened stalk, and we can proceed without the application of heat, and obtain the sugar colorless and unaltered. By carefully conducted experiments of this kind, on the stalks raised in Townsend, Mass., Framington, Mass., and Watertown, Mass., the syrup from Framingham, and that produced by Col. Peters of Georgia, I found that the plants *did not contain a particle of sugar*. The saccharine matter is the same as is found in the grasses, glucose, and the variety is a fruit sugar, in characters. Indeed no fact can be more easily demonstrated, than that of the absence of cane sugar in the plant, or in the expressed juice from it. The sugar obtained like other grass, and fruit sugar, has the character of passing after exposure to air into the amorphous form of granules, and I presume to hazard the opinion, that the presence of these granules, has led to the supposition that the sugar can be crystalized. When the sugar has been dried, as it can be by the usual means, it attracts moisture from the air and returns to its natural state of syrup, holding in suspension some granules of amorphous sugar.

The importance of the fact, to which I now call attention, is more particularly seen in an economical view, and much influences the estimate we would make of the value of the sorgho. Most careful trials by several distinguished French chemists, have proved that *two and one half* pounds of dry glucose have the sweetening power of one pound of cane sugar: deducting the water (about 33 per cent.) we must have between three and four pounds of fruit or grass sugar from the Chinese Sugar cane, to equal one pound of cane sugar, in producing the impression of sweetness.

That the sorgho can be successfully cultivated for producing glucose, I do not doubt, and it is with great pleasure that I refer to the experiments of Col. Peters, as demonstrating this fact, and also as a model for those who would enter upon the same trials. But when we hastily assume that the world is to grow wiser in a year, and the laws of demand and supply are to be changed, caution becomes salutary.

It appears to me that producers in the northern and middle states, have this very important question to solve, viz.; Will an acre under like cultivation, produce the most forage when planted with the sorgho, or the well known sweet corn, sowed broadcast? Established and acclimated as food for cattle, the other uses of the sorgho, can soon be estimated, and the subsequent steps to be taken, will lose none of their interest, by any exact knowledge being thrown around them.

Respectfully, A. A. HAYES, M. D.,
Assayer of State of Mass.

*West Boyleston st. Boston*, 11th April, 1857.

For the Farm Journal.

## SOILING.

Soiling consists in supplying to cattle in summer, green food cut for them, in distinction from the practice of pasturing them on land kept for the purpose. There are instances where a very rough and rocky piece of land is attached to a farm and is devoted to pasturage. I do not not know of any better use for such a piece of ground, scanty as is the subsistence derived from it. The situation of an individual must decide the matter in his own mind. But we are sure where cultivation can be conducted on every part of a farm, the greater economy and profit consists in soiling.

In 1820, the Hon. Josiah Quincy, Sen., made a communication upon the practice of soiling to the Massachusetts Agricultural Society, which was published in its Memoirs, vol. vi. pp. 113 and 334, giving his own experience for some six years. This essay is probably the best recorded experiment of the kind in the country, and should be read entire by every one interested in the feeding of cattle. He observes there are six great advantages in soiling cattle in summer over pasturing.

1st. The saving of land.

2d. The saving of fencing.

3d. The economizing of food.

4th. The better condition and greater comfort of the cattle.

5th. The increase of milk.

6th. The attainment of manure.

With regard to the saving of land—all agree that it is very great—some say it is three-fourths, others seven-eighths, and it is of vast importance where land, as it is in some instances, is equally good in the pasture and in the field.

The saving of land depends in great measure on the manner in which it is cultivated, and upon the foraging crops raised upon it for this purpose.

2d. The saving in respect to fences is obvious. It consists not only in the material, which is of importance when of wood, nor yet, entirely, in the building and repairing, which is of some consequence when composed of stone or any other material, but also in the ability to till even the land upon which the fences would stand, sometimes being a strip twelve feet in width, affording under cultivation, no harbor for vermin, or weeds, or bushes, and presenting to the eye a beautiful appearance of clean and orderly cultivation—not to speak of the profit of the additional crop.

3d. The various ways in which cattle destroy their food by walking upon it, or lying upon it, or breathing on it, or injuring in any way which will lead them to avoid eating it when pasturing, may all be guarded against in soiling.

4th. The cattle are improved in comfort and condition, being comparatively unmolested by insects, eating quietly as much food as they require, in being shaded from the sun, and in not being subject to the effects of drought. This latter is a matter of much moment to the dairy farmer. The four hours each day in the yard, and the long nights also, if desired, afford them sufficient exercise.

How much of this do they get in slowly grazing in the pasture—over that derived from two hours, twice a day devoted exclusively to this object in the yard.

5th. With respect to the increase of milk, Mr. Quincy says, when the pasturing and soiling are commenced at the usual time of pasturing—after the first month, the equality in the product of milk by the two systems will gradually cease, and in favor of the soiling. The pasturing usually grows more or less scarce, according to the character of season, whereas by taking care to provide a regular succession of succulent crops, he who feeds his cattle by hand may keep the product of milk unaffected by the state of the season to the end of autumn.

6th. The attainment of manure. This is a great and characteristic benefit resulting from soiling; or stall feeding. The greatest profit of soiling arises from the quantity of manure it enables the farmer to make, more than doubling it upon the same stock. In the case of Mr. Quincy twenty head of cattle had always been kept upon fifty acres of pasture—good land. By soiling he kept them on seventeen acres. A man devoted half his time to the cattle, at a cost of $15 per month, during which time, besides other advantages enumerated, he obtained fifteen loads of manures, valued at $30—mark! fifteen loads per month.

He was urgent that ample provision should be made in food—knowing that nothing need be lost. He thought clover the most generally adapted to soiling of all the plants used. In the selection of plants much depends upon climate. Indian corn can be used only three months with certainty in New England, and scarcely more in the middle States. The plan Mr. Quincy adopted, was to use grasses from May 20 to July—he was of opinion that provision might be made in the fall for a crop of succulent food by the 1st of May, of some plant or other, but had never made the trial. He found from experience that one acre of good clover was amply sufficient to feed six head of cattle for a month after May 20th. In July he fed with oats cut in the milk—sown in April on land plowed the previous fall. He found that one square rod of well cultivated oats cut in full milk, would support one head of cattle a day.

In August he fed with corn fodder sown in drill. The proportion of land in corn eaten by cattle, was about the same as in oats.

When his corn fodder was consumed, he fed with a second crop of clover and grass till October 15th, when he began to use the tops of roots, of which he raised several acres, and to feed out cabbages, till his cattle were housed for the winter. In this way he provided for a constant succession of food, and guarded against the effects of frost.

"In truth," he remarks, "the capacity of an acre to maintain cattle in a soiling process, if conducted with due attention to develope its full powers, is probably four or five times greater than this, but I chose to raise no extravagant expectations. In the commencement of every new system, mistakes will be made. Great diversities in the quality or state of land must exist, and will of course occasion great diversity in the result. Besides, the soiling process, beyond all others, requires vigilance and foresight. For myself, after a trial of six years, no considerations would induce me to change it for the old method of pasturing."

It is becoming more and more customary for farmers, whose pastures are not very fertile, to provide an acre or two of corn fodder in the spring, which shall be ready to cut in August, when their pastures become more short on account of drought, and their cows fall off in their supply of milk. They find it very profitable. It keeps up the supply of milk, which would otherwise decline. Yet there are some who cut their fodder and throw it over the wall into a corner of their pasture, in the afternoon or evening of each day, and complain that they see no advantage arising from the practice; no wonder at this! on the contrary, a disadvantage arises from it. The cows do not eat half of it. Some do not get any. It makes them impatient and restless an hour before the time arrives, for the man who is so shiftless, will do even this thing irregularly. The butts of the corn stalks lie bleaching in the corner, and even more scattered than this, through the whole season, and give evidence of want of order and neatness in the proprietor. The restlessness of the cows tends gradually to diminish the quantity of milk. The cows starve themselves through the day, with the expectation of getting something better towards night.

But when this extra feeding is given to pastured cows regularly in the rack or stall, it is of very great advantage. It keeps up the usual yield and condition of the cows. All who have tried it concur in this testimony. This is practical soiling, and why not provide for an artificial supply of food through the day and through the summer, if the good inducements and results of such a practice are such as they were found to be in the first part of this article?

Henry Colman, in his European Agriculture, makes some excellent remarks upon this subject, and relates the following instances of success, while he notices only one or two cases of dissatisfaction on the part of those who had tried the experiment.

A man in Ireland has fourteen acres. He keeps four cows and a horse. The sales from the produce of his cows amounted in a year to £17, beyond the supplies of his family. Under the system of soiling, he says, he can keep four cows where he could keep only one before. Each acre of his land, he stated, gave him a profit of £5.

C. D. cultivated eight and a half acres in potatoes, flax, oats, turnips, &c. He kept two cows, paid £9. 15*s.* rent, and had cleared, in the previous year, £43, exclusive of butter used in his family. His oats were a magnificent crop; and where they had been manured with the water in which his flax had been rotted, the beneficial effects of the application were most striking. He raised two pigs.

G. H. occupied eight acres and three-quarters—his stock consisted of four cows and two calves. They had been kept through summer and late into fall upon clover and vetches raised on the same piece of ground which had formerly kept in grazing only one cow, and that poorly. The man spoke in terms of strong approbation of the system.

O. P. had six acres. Two acres and two roods were in potatoes, one acre in turnips, and he produced thirty barrels of oats. He house-fed three cows and three calves, and an ass; he made three firkins of butter; had two pigs; he had to support a family of eleven persons; and yet had twenty barrels of potatoes to sell.

S. T. had five acres of land. He had two acres of potatoes, three roods of turnips, twenty roods of flax. He house-fed three cows and a genet. He made three firkins of butter, and had twenty-four barrels of oats, and fifteen barrels of potatoes to sell.

Mr. Colman speaks of a dairy near Baltimore, where a hundred milch cows were soiled; also of one on Long Island, where an equal or larger number of cows were soiled.

Some persons think it necessary to feed the cows soiled six or eight times a day. This is not necessary, five times is sufficient, say at 5 o'clock, A. M., at 10, A. M., at 1, P. M., at 4, P. M., and at 7, P. M.

It is the increase of manure which is so desirable, that is the most important consideration with those who advocate the system of soiling cattle.

G. P. S.
Pennsylvanian in N. E.

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A rich mold, formed by rotting clover, is worth more than the same number of pounds of clover. Four hundred pounds of dry plants, will yield 100 of mold.

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## IN REFERENCE TO THE "FARMER'S PROMOTION BOOK."

BY DR. C. G. REINHOLD.

Agriculture is the first, the most necessary and the original profession of man. It springs immediately from two large and mighty fountains, namely, of *nature* and of *man*. But these two magnificent fountains are not only of an unexhaustible, but also of such a quality as to increase themselves. They have, therefore, the capacity of a continual larger population of this globe—through the wisdom and dignity of human nature and increase of wealth—to soar aloft to the Father who gave it. For who does not know, that a larger abundance of life and creative power is placed in the bosom of nature and in the mind of man, and that it requires nothing but a correct guidance of both to augment them without limit.

In consequence of this view agriculture appears to be a self-invigorating process or a profession of growth, not only in a physical, but also in a moral respect, i. e. as augmentation of the powers of *nature* and of *art*.

I find the importance of agriculture to consist not in "much labor," but in much *growth* on the part of nature and much *art* on the part of man.

We see that the growth can be increased from the effects of the atmosphere (which is free of expense) to a much larger extent than has hitherto been realized, and that a larger part of labor, which at present has to be paid with money, can be effected by the increase of growth; and by this growth and by a greater labor saving art of management, the farms can be supported so as to produce "the most abundant continual increase of produce without the addition of expense," consequently an increasing land revenue.

Such a system appears to me of the most important consequences in the United States, and for the last fifteen years I have been endeavoring to arrange the farms to an organism of a continual rising of a land revenue.

This organism I place therefore in the following, namely: that through the management of the powers of nature the *farm*, and by the management of the powers of art the *profession* must rise to a mutual increase of produce, and increase of revenue; consequently partly by the science and partly by the art of agriculture.

Shall agriculture come to revenue, it can certainly in no other way be effected, unless the art of management on rising land revenue, steps between the profession and science, and that the talents and abilities of the farmer for this purpose, must be elevated and exercised.

The farmer must be able to raise a larger quantity and of a better quality of produce at a smaller expense, in order to become wealthy by agriculture, and to arrange the farms so, that this will always be possible, signifies to raise it to the organism of a continual rising of its *land revenue* and of its *husbandry revenue*.

These two things do support and are dependent on each other, for to produce a higher valuation of a nobler quality of animals and plant production, we need a larger selection and quantity of fodder, and a selection of soil-strength.

Only by thus operating together and alternately can a *continual raising of soil revenue* be possible.—For it it is very natural that we must get wealthier if we pursue this course, as hitherto we pursued but one; and that to continue the two practices of the art and science, no end to our success can be estimated.

In the present condition of farming the manner of yielding larger produce for the present expense is not introduced at all. We raise certainly here and and there larger productions, but with larger expense while we, instead of the *growth* increased only the *labor*.

The larger valuation of the land produced by nobler stocks of animals, agricultural manufactures, &c., the natural direction is indeed zealously emulated; but it finds its limits in the falling of the market prices, and in the want of the land revenue it finds cessation and lameness.

The improvement of nobler stock of animals is prevented out of the want of a proper selection of fodder and pasture quality, for the fodder is to the animals a chemical formation of strength, and a better selection is only possible by a continual larger produce and variety.

But hereby is also prevented the cultivation of nobler plant matters, as the fodder is also to the soil a chemical formation of strength; namely: not only by the animal manure, but also by the various elements of masses, especially consisting of grass mixtures, rotary of hay and pasture cultivation, i. e., by its green and sod manure masses.

On the most farms we find a gradual decrease of the produce, caused by the fallows and the working of open soil in general; hence obtain the crops only by force through means of a larger absorption of oxygen manuring the soil, and consequently pillage the soil by it.

On other farms there is only a *cessation* instead of a supposed increase of produce, because the proportion of fodder cultivation is too small, too strengthless and artless, and too expensive. Others force an actual *increase* of the produce, but only by larger root and grain crops, consequently for larger expense, so that thus the income is large, but it is still not a soil revenue. All are diseased with one and the same error, namely: "*too much labor and too little growth.*"

Thus a proper soil revenue is not at all existing. The bad management of the soil has made it an universal debt maker, and in most cases by the usual management of the soil there is a great loss. Only a rich soil overcomes here and there, (by the present regulations) its expensiveness of the management and gives some soil revenue.

But besides the small rents, which a proprietor of a farm at present receives, we have no soil revenue, but only a *husbandry revenue*, i. e. only from the valuation of the soil produce, by means of a good stock of animals, manufactures, impoverishing the soil and men—small wages, incidental and in the whole disadvantageous and unnatural high grain prizes, etc.

Want of proper soil revenue is therefore the cause why farm rents are so uncertain. For a tenant can pay only that as soil revenue what is left to him after the deduction of the capital invested in stock, implements and other necessary expenses for carrying on the business. Four per cent. is the highest that farms bring at present, as there is no soil revenue at all from the very uncertain husbandry revenue. And where a proprietor of a farm has to pay interest on the capital of his farm, he is often ruined sooner or later. Papers full of public sales prove this loud enough. This condition of soil revenue is a crying reality.

## AGRICULTURAL EPIDEMICS.

The machinery by which society moves does not run with an equal and steady motion. It goes by jerks, and with a great deal of creaking and rattle. Dirt and stones get into the wheels and disturb the junction of the cogs with each other. Then there is a great deal of friction and wearing on one side, by which the running gear gets out of order, and sometimes breaks things.

In regard to agricultural matters, this is as true as elsewhere. Improvements do not come with an easy and steady advancement. They come by jerks; they come, too, in junks, like a tow string, which runs now small, and now with a knob in it; or like a grist of corn and cob through an old fashioned cracker, giving some good meal and much crude and unground corn, with a multitude of cob-splinters, indigestible by man or mule.

Improvements in agriculture seldom come as *pure* improvements. They come in epidemics, mixed in with a great deal of nonsense, and with more or less of humbug, and often of rascality. The mixture, too, is frequently such as no man on earth can separate entirely. The good and the bad are intertwisted, a little of each sticking out together, commonly with the good uppermost and in sight, while the humbug of the rascality hides itself as well as it can, sometimes wholly, and sometimes like a bustard or booby, with its head in the sand, and the whole posterior body protruded and evident.

These ideas are illustrated in the whole history of the agricultural movement of the last twenty years. We have had a succession of agricultural epidemics, averaging about one in two years, or perhaps oftener, for the whole time. It was at one time Rohan Potatoes, China Tree Corn, Berkshire Pigs, Sugar of corn stalks, and so on. Any man with a good memory may fill out the catalogue. Of late it has been Short Horn Cattle, Morgan Horses, Wyandott Corn and Chinese Cane. This latter is just now in full vigor. I do not include Dioscorea Batatas, for that was such a bold, unmitigated humbug, as to deserve no place, except in the memoir, some day to be published, of a single man.

During this whole time, many farmers have been looking for the day when improvement would come along by itself, in a quiet way, eliminated and pure of all matters foreign to it, so that a man would have nothing to do but to dip it up, as he does water from a clear spring. Such have looked all this time in vain, and are so looking now. The stream does not run clear yet, and probably never will.

Improvements will come as nuts grow—with the meats hid in hard shells with bitter surroundings, and with many which are false or counterfeit. The sap will always have to be boiled down before the sugar can be got, and then a multitude of dirt and scum will have to be skimmed and strained, and after all, perhaps, it will be no easy task to make the syrup granulate.

To drop the illustrations, improvements will continue to come with more or less of excitement; and human stupidity and rascality will mix in where there is excitement; to say nothing of honest but imperfect intention to benefit the public—which fails, and always will fail, from the very necessities of the case.

A good memory will string together from ten to forty epidemical excitements, such as have been named, in some of which the public have been, more or less, taken in and done for. Sometimes the suffering has been extensive or general, sometimes confined to fewer persons and moderate in degree. But no intelligent and right thinking man can fail to see that these things have, on the whole, been attended with a vast benefit. A boy who ciphers at school is as much benefitted by the sums he does wrongly, as by those in which he succeeds. A child learning to walk, learns by his tumbles as well as by his triumphs. So the agricultural public has got wisdom by failures. Rohan potatoes never amounted to much by themselves, but they have been a standing lesson ever since. Men's minds are not like earthen jugs into which you pour stuffs, which they have nothing to do with, but to hold. They learn by action of their own. They are obliged, in this mixed world, to be forever making choices, where good and bad are mingled together, so that all their powers of discrimination are put to task. Not one of the improvements of the last fifty years has been pure and unmixed. Short Horn Cattle have done and are doing a good to our country, but many have suffered by them—by want of adaptation in some way; to say nothing of the impudence which have rode this hobby here and there in pursuit of game.

Chinese Sugar Cane may come to something, but the harvest will not be at once, in correspondence with the wind and ink shed about it. There will be a multitude of disappointments, or all the past has taught us nothing. Some *may* make sugar of it—some *may* make syrup—some will get molasses, and some a stuff which neither men, dogs, nor mules would like to own—and some will get *just nothing at all.* Some will fail because failure is inevitable in their circumstances—some because *some men* always fail, and some because they have no suitable light on the subject. Why should there not be failures, even though the thing be good as claimed? Do not some men fail in taking care of a flock of sheep, or in running a Reaper, or in churning butter? How much more in a new thing—the suitableness of which to our climate is yet to be proved.

The man who waits for an improvement to come to him pure and unmixed, will wait to cross the river *till it runs by*. He who goes trapping for the first time, risks the pinching of his fingers, but he who abstains from traps altogether, catches no beaver.

J. A. W.

## A PLEA FOR DWARF PEARS.

MESSRS. EDITORS:—In a recent number of *The Homestead* there is a communication entitled "Critical and Suggestive Remarks on the Cultivation of the Pear." The suggestion respecting the preparation of the soil by deep trenching and draining are certainly very good and ought to have their influence with every cultivator; but the leading thought that the pear can only be cultivated successfully, or made to repay when grown upon the pear stock, made as it is without any sufficient data, ought not to remain unanswered, for it is certainly in direct opposition to the testimony of our most experienced and successful Pomologists, who almost uniformly agree in giving preference to the pear on the quince. The finest fruits grown in this country, commanding the highest prices in our markets, are from such trees. That they abundantly repay all the labor, care and cost, cannot be doubted, especially by those who have had the pleasure of seeing the beautiful specimens of trees in the vicinity of Boston, from fifteen to thirty years of age of the most perfect form and ladened with an abundance of fruit. It is true that in this vicinity we have had but little experience in this mode of culture.

Some ten or twelve years since the attention of a few gentlemen was called to the cultivation of the finer varieties of pears, and with this mode of growing pairs they were entirely ignorant, nor is it surprising that some mistakes were made in planting and in the system of cultivation; within this period there has been great advance made in this science. A large variety of the choicest kinds has been introduced and successfully cultivated and some of us have learned that pears can be grown even on the *quince* so as to repay the culture; still the question is often asked, if pears can be successfully grown on the quince, and what advantage there is in this mode of culture? The first and great advantage is early and abundant fruitfulness. We begin to reap the fruit of our care almost immediately, indeed the tendency to produce fruit is so great that this is one of the objections to this manner of growing them, as inexperienced cultivators leave such quantities of fruit upon their trees, that they must necessarily be dwarfed; for when a tree has but two or three years from the bud is permitted to bear from three or four dozen pears we cannot but see that in its exertion to carry out the ripening process it exhausts its strength its growth is dwarfed and it often receives injury from which it will require years to recover. Another important inquiry is, Are trees upon the quince short-lived? In reply we would say that in this country we have had comparatively a short experience. There are fine trees grown in this way thirty years old which are in every respect as promising for long life as trees of the same age on their own roots; we also learn that some of the finest specimens of trees in France, more than 100 years old were originally grafted on the quince. In our limited experience we have lost a much smaller percentage from fire blight or from any other cause and we are satisfied that in this way we can plant pears for ourselves as well as for our heirs. Another important inquiry is, are such trees necessarily dwarfed? Certainly not. Our experience leads us to the conclusion that, when properly planted and cultivated, they not only begin to bear immediately and almost from the first *repay the culture*, but they also keep up, if they do not excel, in vigor and growth those on their stocks. We have such trees which last Summer made a growth of from three to five feet. Some six years since we planted quite a number of trees one pear from the bud of Buerre Diel, Loucise Bond d'Jersey, Marie Louise, Glout Morceau, &c., and also an equal number of the same varieties on the pear; those on the quince are to-day, as a whole, finer trees, equally large, and from the second year have paid their way, while those on the pear have as yet yielded no fruit.

What are some of the essential requisites in order to succeed in this mode of culture? First, select only such varieties as are known to succeed on the quince; secure if possible a good rich soil; if the subsoil is clayey or retentive of water it will be of vital importance that it be thoroughly drained. The pear will not succeed with its roots immersed in water. The trees should be deeply planted three or four inches below the union between the pear and the quince. This will cause the quince stock to throw out an immense number of roots and eventually the pear from many kinds will make roots of its own. Care should also be taken in planting not to cramp the roots. Multitudes of trees are lost by negligent planting; if a tree is worth buying it is worth taking care in planting. After being well planted have it properly cultivated, not permitting it to be choked by weeds and grass; in many soils it will be of great benefit to have the tree mulched by coarse manure or such other substances as will keep the earth around the trees moist. By attending to the above requisites, you may depend upon the growth, fruitfulness and longevity of your trees.

* * S.

Hartford, March, 1857.

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From the Plough, the Loom, and the Anvil.

## PLANTING FOREST TREES.

Messrs. Editors:—In my suggestions on the propriety and eventual profit of appropriating side hills and rocky pastures to the cultivation of forest trees, I supposed it was well understood that by these I meant such lands as were too steep and too rocky to admit of successful cultivation. Now, if I am not greatly mistaken, there are thousands of acres of such lands, (all lean, shallow soils may be included,) which do not now give produce enough, all told, to pay the interest of twenty dollars an acre. To what extent such lands in some localities can be reclaimed, or how well they will pay the investment after it is done, is not for me to say. One thing, however, is certain; timber of all kinds is getting scarce in our Eastern districts, and this scarcity is consuming the Western forests. While the supply is growing less every year, the demand is constantly increasing, and is likely to do so, perhaps, to all future time. Then, with all this consumption, where is the supply to come from, unless forest culture becomes one of the general cultures of the age?

The necessity of the thing seems apparent. To meet Yankee commendation, we know it must be shown to be profitable. We will suppose, then, that this acre of land, is held at $20, more, to be sure, than we would willingly pay for it, were covered with the Yellow Locust, a tree of pretty sure growth, one that provides for itself, and always leaves the land better than it finds it. Let every one estimate for himself, the expense of covering his land with it, protecting from cattle, etc., for these must vary in different sections. In twenty years let him cut off this timber, and see if his land and labor have not given him more than ten per cent. on cost of land and all other expenses.

What quantity of timber a thrifty locust will give in twenty years from planting, we have not now the means of judging. We have, however, just made an estimate from a tree planted twenty-seven years ago, then a mere shrub no larger than a whip-stock. Now, two feet above the ground, it gives the circumference of four feet and ten inches, which makes it at that point nearly twenty inches in diameter, with well-proportioned body and top. Any one conversant with trees can form an estimate of the amount of timber in it, near enough to decide whether it is worth raising. They can also estimate how many such trees can be grown upon an acre, and the probable market value of them now, and their prospective value twenty or twenty-five years hence, and decide whether their culture will be an object. This tree, counting all the time we bestowed in planting and caring for it, may have cost us fifty cents, for which we give receipt in full for the pleasure it has given us. For *fire-wood* it would probably bring us four dollars on the ground. But we are not making estimates for other localities; these are another affair.

We also measured a white elm planted at nearly the same time—it might vary a year. This gave four feet seven inches girth, and would give more than a cord of wood; we don't know how much. But for timber it would be worth more. A sugar or rock maple planted out, a mere sapling, about the same time, and near by, gave a girth, of three feet seven and a half inches, with a tall, handsome trunk and heavy top.

In bringing old lands into forests, a query may arise, as to the best way, whether to sow the seed or plant the trees. When circumstances will permit, we should commend the former course, from the fact that any tree will succeed best if it grow undisturbed. It is an object to have them so thick as to shade the whole ground as soon as possible, for the shade will preserve moisture, so essential to their

growth, and if they stand thick, it will prevent the leaves from blowing away when they fall, and thus retain them to manure and loosen the soil. Now it is certain that a crop of young trees can be made to cover an acre *cheaper* from the seed than by transplanting. If they become too thick for their own convenience, the more imperfect and feeble ones will die out to make room for the thrifty.

The idea that anything is gained by setting out trees to gain time, we consider in most cases pernicious. When a tree springs up and is allowed to remain, it enjoys an unrestrained growth. Nature adapts the roots and branches to meet its demands. Where trees are removed, they are very apt to suffer from mutilation of roots and change of soil, so that their growth is checked and disease often results; hence in these matters, a delay of growth often results in eight years more than equal to the size of the tree when transplanted.

In seeding land for a forest, we would introduce as great a variety of the valuable timbers as the soil and circumstances of convenience would permit; for as each species of tree is somewhat different in its constitutional habits, each would thrive on food that some other species had rejected. This is nature, and it is illustrated often in forests where it can be particularly observed.

Your truly, William Bacon.

*Richmond, March* 2, 1857.

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For the Farm Journal.

## UNDERDRAINING.

This useful farm-improvement is done in different ways, by different farmers. Some use stones, while others use tiles or lumber. Economy and efficiency are the main questions that ought to present themselves to the enterprising farmer that is about to commence this improvement of his wet soil. Stones, tiles, and lumber have each their advocates, and locally considered each is correct.

For instance, it would be deemed a great folly by reasonable men, for a farmer who had land that required draining, and also stones of suitable character convenient, to purchase tiles, especially from a distance, to lay his drains. By laying stone drains he will accomplish a double purpose; he clears his land of surface rubbish, and reclaims valuable land; but where stones are wanting, tiles are the next article that deserve attention; lumber should be used only when very cheap, and stones and tiles cannot be conveniently had. The former materials make durable work, while lumber is liable to decay in a short time, when the work has to be repeated.

The article written by Geo. E. Waring, jun., and published in the *New York Tribune*, under date of April 4, 1857, advocating the exclusive use of tiles for draining purposes is certainly too prejudicial for any liberal minded farmer to admit; I therefore beg leave to differ from friend Waring, he as well as I, and every body else, will occasionally commit errors, but I admire him for the stand he takes in favor of reclaiming land by drainage. Stone drains offer every thing else that tile drains do, besides "a channel for the slow percolation of water" in the soil, the only characteristic which he allows the "old" fashioned "stone and brush-drains." Brush-drains, I consider next to no drains at all, but I will go into an obligation with any gentleman, to lay a stone drain equal to any other drain in all respects, to be sure, the thing must be understood by him who does it, and be well done.

The narrow drains made by draining spades, for burying tiles in ditches, will do very well, and will save much ditching in soil that consists of loam clay or sand, but when the ground is hard and mixed with stones it will not answer. In that case the ditches must be wide enough to admit a man with a common shovel inside of it, and a good pick will have to be applied vigorously; of this matter I can attest from my own experience, and if friend W. calls on me I will demonstrate to him all I have here said. I am willing to allow any subject or system all it is entitled to, but no more.

J. S. Keller.

Orwigsburg, Schuylkill Co., Pa., April 7, 1857.

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## ASPARAGUS.

After the early cabbage and other seed is sown for transplanting, and the lettuce and radishes, and such things started, attention must be given to planting *Asparagus*, *Rhubarb*, &c.

In planting an asparagus bed, it is the better way, if possible, to procure the plants of a nurseryman. Two-year old plants can be obtained for about two dollars per hundred, and a crop will be grown two years sooner than if the seed was sown. The best variety is the Purple-Top, which is the purplish looking variety commonly seen in our markets. Some suppose there is a larger variety, resembling this in everything but its size, while others think it is only good cultivation that makes the difference. We have seen that raised from what was called *giant* seed made very *dwarfish* by poor culture. To raise plants, the seed must be sown early in spring, in drills, an inch or so in depth, and the rows eighteen apart. The best ground for seed is the light, rich, loamy soil. As soon as the plants are up, the ground must be well worked.

Asparagus may be grown in almost any soil, if well drained; yet the most suitable is a light, deep, sandy loam. This should be dug deeply, about two feet, and plenty of manure incorporated with the soil. A piece of ground fifteen feet by twenty, will produce enough for almost any family. This should be divided into three beds, four feet wide, leaving an alley 18 inches wide between each bed, and making three beds four feet wide and twenty feet long. Two such beds will be ample for a small family. At this stage it would be well to sow on the beds about half an inch of salt, and rake it in. The Asparagus is naturally a marine plant, and is very fond of salt. Now draw a line lengthwise along one of the beds, nine inches from the edge, and cut a trench on the outside of the line, six inches deep, and in this trench set the plants, nine or ten inches apart, and so deep that when the trench is covered, the crowns of the plants will be about two inches below the surface of the bed. As the plants are put in, draw a little earth over them, so as to secure them in their places. Having finished one row, cover them and rake off evenly, and proceed to make another furrow one foot from the first, and plant as before. This plan will give four rows to the bed. The beds will require no care the first summer, but simply to destroy the weeds, and this must be done carefully, so as not to injure the plants. If salt was sown pretty freely before planting, the weeds will not be troublesome; if not, salt can be sown over the beds any time during the summer. Enough salt to kill every weed will be only a nice relish to the Asparagus. In November, cover the beds with three inches of rotted manure. In the spring this may be lightly dug in with a fork, care being had not to go deep enough to injure the crowns.

The second spring, if the cultivator is very anxious for Asparagus, the strongest can be cut, though most gardeners recommend leaving them untouched until the third year. We should not hesitate, however, to cut moderately the second season, if we had no other way to get this delicious vegetable.

All the care the beds will require after this, is to cut down the old stalks, pull up the weeds, and cover with manure every fall, which should. be forked in in the spring. After the manure is forked in, rake all loose stones, rough manure, &c., into the alleys. Give, every season, in the spring, a dressing of salt.

A correspondent inquires how long an Asparagus bed, if properly treated, will keep in good condition. We have seen them fourteen or fifteen years old, producing bountifully. It should be cut close to the ground before the head becomes loose, and will generally be about six inches high.—*Moore's Rural New Yorker*.

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There is 5 pounds of pure sulphur in every 100 pounds of wool.

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## CLINCHING HORSE SHOE NAILS.

As I once passed through this town, one of my horses' shoes became loose, and I went to the shop of a smith, named Lovelace, to get it fastened. The shoe was nearly new, and had become loose in consequence of the nails having drawn out of the hoof, although they had been clinched in the manner universally practiced. The smith remarked that all the other shoes were loose, and would soon drop off, when I requested him to take them off and replace them; and then did I perceive the different mode which he adopted for fixing them, which I will here detail. As fast as he drove the nails, he merely bent the points down to the hoof, without, as is customary, twisting them with the pincers; these he then *drove home*, clinching them against a heavy pair of pincers, which were not made very sharp; and after this had been carefully done, he twisted off each nail as close as possible to the hoof; the pincers being dull, the nail would hold, so as to get a perfect *twist round* before it separated. These twists were then beaten close to the hoof and filed smooth, but not deep, or with the view to rasp off the twist of the nail. "Oh ho!" said I, "I have learned a lesson in horse-shoeing." "Yes," said he, "and a valuable one; if I were ever to lose a single shoe in a long day's hunt, I should have to shut up my shop; my business is to shoe the horses belonging to the hunt, and the loss of a shoe would be the probable ruin of a horse worth perhaps a thousand pounds; but I am never fearful of such an accident." "Simply because you drive home and clinch the nails before you twist them off," said I, "Yes," replied he, "by which I secure a *rivet* as well as a *clinch*."

The thing was as clear as the light of day, and I have several times endeavored to make our shoeing smiths understand it, but they cannot see the advantage it would be to *themselves*, and guess, tharefore, *it would never do in these parts;* but if my brother farmers cannot see how it works with half an eye, and have not the resolution to get it put in practice, they ought to see the shoes drop from the feet of their horses daily, as I once was accustomed to do. Now, let any one take up an old horse shoe at any of the smith's shops on the road, and examine the clinch of the nails which have drawn out of the hoof, and he will soon see how the thing operates. In short, if the nails are driven home before twisting off, and the *rivet* formed by the *twist* be not afterwards removed by the rasp, I should be glad to be told how the shoe is to come off at all, unless by first cutting out the twist?—*Farmers' Cabinet.*

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Carrots consume 197 pounds of lime to the acre; turnips but 90 pounds.

## THE "GROUND CHERRY."

We see that the venders of this worthless thing are still at their old tricks, and with so much craftiness that they deceive the very elect. Our good friend of the *Maine Farmer* has listened to the humbug tale, and is so far deceived as to "recommend a general trial of it." Now, Doctor, we have had some experience with this plant—have destroyed thousands in a year as mere *pests*. Instead of the fruit being, as the pedler represented, "valuable for pies, puddings, and preserves, and making a good wine to boot," it is not fit to be used for any such purpose, and is not, where even the most ordinary fruits or *berries* can be had. The whole scheme of selling this "ground cherry" is a cheat.—*Boston Cultivator*.

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## "AMALGAMATION OF POTATOES."

*Editors of Farm Journal:*

There is an article under the above caption in the "Journal" for this month, in which you seem to endorse the statement, or rather, the views of a certain Scotch farmer, in regard to what he is pleased to term the "breeding" of Potatoes "in and in," as being the cause of degeneration, &c., &c. It seems to me strange that you and he should confound two processes of nature so entirely distinct, as propagating a plant by cuttings and "breeding," the latter term having only reference to *reproduction* by *seed.*

Facts are stubborn thing, and I would not wish for one moment to call in question the statement of facts of any one, in regard to results which he may have obtained by any particular mode or process of planting or culture, but I must enter my protest against the *conclusions* which he arrives at, or the theory which he founds thereupon, that the degeneration of potatoes has been caused by what he calls, "breeding" too closely, and that simply planting two or more kinds in the same hill, will *cross the breed*, as well might we expect two horses of different character or color to assimilate, or two cows to give the same quantity and quality of milk, by being fed in contiguous stalls.

I presume there are few who will not admit that breeding in and in, i. e., breeding continually between parent and offspring, will cause degeneration either in animal or plant, but in propagating from cuttings, either above ground or below, either from the stock as in grafting or budding fruit trees, or from the root as in planting potatoes, there is no production of offspring, but simply a continuation or re-growth of the old plant; therefore, whatever beneficial effect Mr. Craig may have produced or discovered by planting different varieties together, it cannot, in the nature of things, be referred to any of the phenomena of breeding, and I think that any practical man will be quite willing to *see* before he *believes*, that the result named was anything more than the effect of season or some accidental circumstance.

That all plants will degenerate after a long continuance of propagation by *division*, no one will deny, as we have too many instances in proof; many varieties of fruits, for instance, having become nearly or quite extinct, or at best, worthless—and the article under discussion, potatoes, must be expected to obey the same law as they have already done in some instances. Varieties which were considered the best a few years back, have rapidly gone the way of all perishable things.

Now it does appear to me the plainest and simplest thing in nature, that the proper way to keep up the character of the most important esculent ever grown, and the only way it *can* be done, is to reproduce continually and frequently from *seed*, from actual seed, not from what we are in the habit of calling, by courtesy, "seed potatoes." By this means, each one who does it may obtain an article suited to his soil, and by repeated trials, something even better than we have ever yet had, may be produced.

Very respectfully,

J. C.

*Burlington, March* 10, 1857.

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## EASY AND SPEEDY METHOD OF MARKING OUT FOR CORN.

Take the front gearing of a wagon, with wheels of good height. Fasten a piece of wood 3 by 4, 6 inches longer than the width, to be marked out, firmly to the corners connecting the hounds and slide, nail a broad board on the hounds sufficiently back to graduate the weight on the horses' necks. Place a half bushel upside down, or a small box for a seat. Securing them by ledges nailed on the board. Attach a couple of light plows. So that the centre between them may be a trifle to the left of the pole of the wagon. Run them pretty well on the bar. That will place the centre in range of the poles, and also prevent the plows from being easily thrown out of line. Mark out the two first furrows. Then leave a space for two, between them, and the two succeeding. Two poles only are required, (unless hills intervene) and their length should be such that twice their measurement, will give the distance required. Thus the alternate furrows are struck out by poles. While the vacant spaces are run without being governed by the furrows on either side. Thus using but two poles to every four furrows.

By this mode, any person capable of driving straight with his attention exclusively devoted to the horses and poles, may with raw material in the shape of boys of 10 or 12 years old, or men who have never held a plow, mark out more than double the amount usually performed by two good ploughmen with two teams, equally as straight, and better graduated as to depth. While the labor will be thrice as easy. The attention of each person being directed to his own particular business.

THOS. HOPKINS.

*Montgomery Co. Pa.*, 3d mo., 1857.

For the Farm Journal.

## TO KEEP SMOKED MEAT IN SUMMER.

Having tried the thousand and one recipes for keeping insects from meat in warm weather, and found none of them fully satisfactory, we recommend others to try the following of our own invention. After your meat is smoked, or otherwise dried, do not hang it up, as is the common custom. But in a cool dry pantry have a neat tier of shelves made of slats, upon these lay your meat, skin side down, and cover the flesh side half an inch thick with clean dry soot, (*not ashes*,) keep out mice, rats and larger vermin, and your meat, if it has been well cured, is safe for the summer, without further attention, no insect will approach it. F. S.

*March* 10, 1857.

## AMALGAMATION OF POTATOES,

OR,

A SCOTCHMAN TRYING A YANKEE TRICK.

"What say our potato philosophers to the amalgamation of potatoes by planting two or more varieties of potatoes in one hill?"

What say our chicken philosophers to the amalgamation of chickens by hatching the eggs of two or more varieties of hens in the same nest? They will probably say, all the amalgamation which takes place through the shell of the eggs, is not likely to improve the breeds very much. And though we may be considered dull, we certainly cannot comprehend by what law of nature any amalgamation of potatoes can take place, except through the sexual organs of the plant found in the flower, and affecting only the seed in the ball on the top of the vine, and so the tubers produced from that seed. If true philosophy can teach any other, we will be happy to learn. The Scotchman seems to have caught a glimpse of one Yankee idea, even across the great waters, and thinks it would be easier to get a living by getting up a *notion* for sale, than by getting up potatoes. He and his pamphlet ought to be put in the pot with his potatoes, they are certainly too *raw* to amalgamate with Yankees and Yankee tricks.

F. S.

*Moss Grove*, *March* 11, 1857.

## RESPONSIBILITIES OF DEALERS IN SEEDS.

The following article from the Valley Farmer is commended to the attention of the reader. Its tone and sentiment are precisely in accordance with our own, and are the same as those we have frequently advanced in the columns of the Journal. The subsequent portion of the article is also valuable, and will be read with interest:

The seed business in many of the cities in the Union, has become a very important one. The farmer no longer depends upon his neighbor for many of the seeds he intends to sow, but upon the merchant of the city or town. In no department of trade does there rest a greater responsibility than upon the seedsman, and there is none (if we except that in liquors) that affords greater temptation to men of "easy integrity" than that in seeds. Farmers and gardeners are frequently liable to gross imposition by unprincipled seedsmen, either from being furnished with a spurious article, or with seeds so old that their vitality has departed. There are very few seeds that the unpractised eye can determine whether they are five years old or only the growth of last year. In planting a crop of garden vegetables, or in seeding fifty or a hundred acres of grass, hemp, or any other crop, with old or unsound seed, it is not the loss alone of the amount that has been paid for seed, that is to be so much considered, although this may be great, but the disappointment in the loss of the crop, and the derangement, in a well-established system of rotation, is many times greater than the mere cost of seed. It is in garden seeds, hemp seed and the grasses, that farmers and gardeners are most liable to imposition. We have known hundreds of acres of hemp to be lost in consequence of the sale of seed so old that not one seed in a bushel would vegetate. And so more frequently with garden seeds. Not long since we referred to a branch in the trade that has sprung up in a kind of grass seed which is grown nearly upon the Canadian border and shipped to the West in large quantities and distributed to dealers in every section of the country, and sometimes immediately back to the very neighborhood where it grew, under the name of "Extra cleaned Kentucky Blue Grass Seed." This seed is of a nature that renders it susceptible of being separated from the chaff, as the genuine article cannot be, and hence it is imposed upon the public as a superior article, and sold at double the ordinary price. But while there are instances of this character to be met with, we are pleased to know there are many honorable exceptions with men who have established a reputation and a business, of which they may well be proud. It is with such that the farmer should seek to deal.

In the introduction of any new vegetable or grain, there are always those to be found ready to impose upon the credulity of the public, by false representations in regard to its quality or productiveness, as in the case of the wonderful *Dioscorea Batatas*, or Chinese Yam, that was so speedily to annihilate its Irish predecessor, and many others that might be named. As the conductors of a farmer's journal, we deem it not only our province but our duty to put the farmer upon his guard against impositions like these, as much as it is to furnish him information upon the subject of the best crops or the most improved implements and machines.

## VITALITY OF SEEDS.

The vitality of seeds, with proper care and under favorable circumstances, can be depended on for the following periods: Indian Corn, Wheat, Rye, &c., for *two years*. Of course every farmer will sow fresh seed when it is possible to obtain it of equal quality.

Millet, Buckwheat, and the grasses generally, will grow the *second year*, if saved over with proper care, but not with the certainty and vigor of fresh seed.

Hemp will grow the second year, only when kept dry, and in a small quantity together, and not exposed to too great heat.

Parsnips, Rhubarb, and other thin scaly seeds, for *one year*.

Carrot, Cress, Leek, Onion, Peas, Pepper, Sage, Salsify, Tomato, for *three years*.

Asparagus, Egg Plant, Lettuce, Mustard, Parsely, and Spinach, for *three years*.

Broccoli, Brussels Sprouts, Cabbage, Cauliflower, Raddish, Sea Kale, and Turnip, *four years*.

Beet, Celery, Cucumber, Mellon, Pumpkin, and Squash, from *eight to ten yevrs.—Valley Farmer.*

## HAY—ESTIMATING WEIGHT BY CUBIC MEASURE.

It is stated by those, who have repeatedly tried it, that a mow of English hay, can be accurately estimated in tuns, by getting the cubic contents and allowing for a well compacted mow or stack, 700 cubic feet for a tun. Of a mow that has stood through the winter, it will take 800 cubic feet of the top for a tun, for about one third of the depth; and 700 feet for the next third; and 600 feet for the bottom of the mow, that is twelve or fifteen feet deep. Besides this there are numbers of men, whose daily occupation is the trussing of hay, for market, who cut by measurement, and with such accuracy, that when each truss is put in the scale there will not be an excess, or deficiency of more than two pounds.

## INTERESTING EXPERIMENTS.

There is so much truth in the annexed remarks (which we copy from the Mark Lane Express) as well as interesting matter for consideration in the table of experiments, that we are led to think some of our readers will, after a perusal of them, try some experiments in the same direction, and report results for the benefit of their fellow farmers:

We have received from Messrs Hardy and Sons, of Maldon, specimens of different grain in the straw (wheat, barley, and oats) grown by them, with a request that we would examine them. They are intended to show the effect of their system of thin sowing, and of more care than is usually experienced in the cultivation. The specimens were placed in the hands of a person well qualified to examine them minutely, and to report upon them, and we now give below the results, with all the details connected with the several parcels; and without pledging ourselves in the slightest degree to the applicability of the system upon a broad scale, we feel justified in saying that those results are such as to deserve the attention of practical men, and a rigid enquiry how far the system of thin and careful sowing or planting of cereals is capable of being carried out generally under the present course of husbandry. It is certain that the application of steam machinery to the various operations of the farm will very soon liberate a vast amount of the labor at present engrossed; and the question is worthy of being entertained, whether a portion of this labor could be better employed than in a more careful attention to the deposition of the seed of cereal plants, and a stricter supervision of their after-growth.

We have abundant evidence of the unquestionable fecundity of wheat and other cereals, far beyond what has at present been developed by the common course of husbandry, and we are inclined to think that the question has not received that consideration, or been experimented upon to the extent it deserves. The subject of the physiology of plants has never been a regular study with agriculturists, and there are but few of them who know anything at all of it, beyond those palpable facts which the common operations of the farm have disclosed.—Even the facts thus developed are but imperfectly understood; and the habits of plants, relating to the time and mode of sowing, culture, &c., are made to yield to the convenience of the cultivator, rather than suffer them to involve an additional expense, which would probably be well covered by the increased amount of produce.

Messrs. H. & Co. have also handed us one of their tracts on the cultivation of cereal plants, exhibiting their system in regard to the selection of seed, time of sowing, proportion of seed required, method of culture, &c., the perusal of which is calculated to excite reflection and enquiry in the minds of intelligent and unprejudiced agriculturists. We have yet much to learn on these subjects, *and more to unlearn*, before the fecund properties of our cereal plants are fully known or even credited; still more before the means and processes by which they may be developed, are received and adopted by the general body of agriculturalists.

We submit the following statement without further remarks, to the consideration of our readers, especially those who have time and opportunity for making similar experiments, and skill in calculating the expense, &c., attending them.

Specimens of the produce of different Cereals from Messrs. Hardy and Sons, Maldon, Essex.

| Number. | No. of plants | Distance planted. | No. of ears. | No. of grains. | Average per ear. | Average per plant. | Weight of grain. | Quantity grown. | When planted, | Average produced per acre. |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. Mummy Wheat.. | 1 | 1 foot | 20 | 2280 | 114 | 2280 | 3 oz. | 5 acres. | — | 17 qrs. |
| 2. Red Wheat....... | — | 1 " | 10 | 1120 | 112 | — | 2 " | 1 " | Oct. | — |
| 3. " " ....... | 4 | 1 " | 113 | 7240 | 64 | 1810 | 10 " | — | — | 14 qrs. 1 bush. |
| 4. " " ....... | — | 1 " | 100 | 8600 | 86 | — | 7½ " | — | — | — |
| 5. Skinless Barley... | — | — | 2 | 162 | 81 | — | ¼ " | — | — | — |
| 6. Common Barley.. | 1 | 1 " | 82 | 2040 | 25 | 2040 | 3½ " | — | — | 25 qrs. 4 bush. |
| 7. Oats............. | 1 | 1 " | 10 | 2816 | 281 | 2816 | 2½ " | — | — | 21 qrs. 4 bush. |

Note.—The wheat is estimated at 60 lbs., the barley at 52 lbs., and the oats at 38 lbs. per bushel, which is the full weight of the specimens.

### Explanations.

No. 1.—Twenty specimen ears of Egyptian white wheat as cut from one stub, growing at a wide distance casually in a field of five acres.

No. 2.—Ten ears with thin straw of Hardy's selected and improved red wheat, from one acre transplanted with plants sown by the sparrows in a stubble in August, planted in October at 1 foot apart at little more than ¼ peck seed per acre.

No. 3.—Four (out of 8) single roots, 240 ears, averaging 35 each, grown casually at 1 foot apart on common ploughed land and no manure, was very foul; 1 peck of seed sown, and thinned out singly quite half, rather blighted.

No. 4.—One hundred ears of prolific red wheat transplanted on 1 foot square, or little more than 3 pints per acre, rather blighted, as other peoples.—Estimated produce 6 qrs. per acre.

No. 5.—Two ears of skinless barley.

No. 6.—One plant of barley sown ¼ peck per acre, spoiled with the application of strong liquid manure, which caused it to be blighted.

No. 7.—One plant of (Tartarian) oats, ½ bushel of seed per acre. There are two grains in every husk—twin-like.

No. 8.—By way of contrast we have inspected in the same manner, 10 ears of old Norfolk red wheat, grown at Glanford, which contain 511 grains weighing 11–12 oz., averaging 51 grains each ear. The crop is estimated at 6 qrs. per acre. Quality very good. All the specimens are of this year's growth.

For the Farm Journal.

## THE BOOK FARMER.

BY J. S. KELLER.

There are those who have too much to say about book-farmers and book-farming, and generally those who understand very little of either book or any other kind of farming, but who had the good fortune to be placed by their fathers on farms, where nature was lavish in all that is needful to grow abundant crops; and what they do know is only imitation; and what they have improved, if any, they copied from those whom they revile. If any of their neighbors spend money, time and talents to experiment, either in field crops or breeding animals, especially if he is a reading man, and takes advantage of the many good suggestions and results given in books and papers, and of his own studies and researches, then he will be sure to receive a double dose of abuse; but no sooner than he is successful, these very revilers will sneak over his premises, peep over the fence and copy after him, without having common honesty enough to acknowledge it; nor will they call at his house to have a friendly and sociable talk of matters and things relating to farming. This is wrong. When men spend their means, fatigue their bodies, and put to task their mental energies for the good of their fellow-men and the glory of agriculture, it is, to say the least, cruel and unreasonable to discourage them by sneers and silly remarks.

It is but a short time ago, that a man told me, his neighbor, naming him, was one of the scientific farmers, and was constantly making some experiments in cultivating new varieties of grain, &c., in many of which he failed, and wound up by saying, he considered him a poor farmer, but acknowledged he raised good crops, and had fine pigs and other animals, challenging me to beat them.

Now, there is no more reason for such a conclusion, than there is for taunting those who spend their money, time and talents to invent improved implements and machinery; and who does not know the value of such? Who have we to thank for the improvements in Agriculture, as well as in Implements and Machinery? than those noble spirits who are thus abused, and who by their energies make provisions for future generations, who may have a better appreciation of their virtues and do them justice, perhaps after they and their revilers are dead. To what is above said, there are some exceptions.

It is true, that in some of the Agricultural Periodicals, we sometimes find articles that are not practical; but such are always the results of pretending farmers, who sit in their offices, or some other places, and all they know of farming is, what they hear others say, who know as little as they do, and upon what they think they understand, go to work and spin out articles that have some plausibility, if superficially viewed; and whoever is greedy enough to trouble himself with theories and notions, that any plain, practical man must see are humbugs, must abide the consequences; to condemn such is correct; but where I find fault with the taunters of book-farming, as they call it, is to slander and abuse those who have the enterprise really to advance the calling of the bread growers and improve the science by their untiring experiments. One consolation is, that the intelligence of the country is fast gaining its proper position among the farming community, as well as in our towns and cities, and as that progresses the silly twattle ceases. The excellent system of schools we enjoy, clears up the way for future prosperity—and the time will come that the farmer, to do the business successfully, will have to work by known scientific rules; that time is within sight, and can no more be stayed than the wind.

Speaking of known scientific rules, agriculture must always be conducted on that principle; but how many are engaged in it, who are ignorant of that fact!

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Young Stock should be moderately fed with grain in winter, and receive generous supplies of long provender, it being essential to keep them in a fair condition in order that the formation of muscles, bones, &c., may be encouraged and continuously carried on.

## CHINESE SUGAR CANE.—HOW TO ECONOMISE IN PLANTING IT.

Messrs. Editors—I perused with much interest the article in a late number of the Scientific American by Mr. H. G. Bulkley on his experiments with the Chinese sugar cane. Mr. B., like myself and many others, did not regard the article as worth much attention.

Last spring I obtained a small quantity of the seed in Philadelphia; although well recommended I regarded it of no consequence, and planted only a little, for the curiosity of it, and hence little attention was paid to it. I distributed the balance of the seed among friends, who, like myself, regarded it as nothing more than an ordinary variety of the broom corn family. But in September and October we all discovered the canes contained an immense quantity of rich sweet juice, capable of being converted into a fine syrup.

At the end of the row, where it had room, I found it tillered out, producing four canes from a seed. I examined some planted by Mr. William Chorlton, at New Brighton, Staten Island. In some hills, several canes were left to grow just as they came up, and others were thinned out to one plant in a hill, these tillered out, and produced from six to a dozen fine canes, all about the same height.

Mr. J. R. Thomas, of Waverly, Ill., says he planted the seed I sent him, one seed in a hill, three feet each way, and it tillered out and produced a dozen good canes to the hill; he is so well pleased with it that he intends to plant about thirty acres of it this year. As he is an old resident of New Orleans, and understand sugar-making, he knows the value of this new plant.

Many of my canes weighed 1 3-4 lbs. each; they will certainly average 1 1-2 lbs. each. An ounce of seed will plant 1400 hills, one seed in a hill, and produce from 5,000 to 15,000 canes. The ground should be plowed or dug deep, made rich, and in good order, and the hills three feet apart. If two or three seed are put in a hill, the plants should be thinned out to one; it roots well, and there is no danger of it blowing down. It wants light and air, and should not be planted too thick, or it will prevent the perfecting of the saccharine juices of the plant.

J. C. Thompson.

Tompkinsville, Staten Island, N. Y., 1857.

[This is useful and seasonable information to those who intend to plant the *Sorgo sucre* during this season.]

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Limestone sand retains heat the longest; black, peaty soils radiate heat most rapidly, consequently cools soonest, and is the first to experience frost.

## NEW JERSEY STATE AGRICULTURAL FAIR.

The New Brunswicker announces that the Executive Committee of the State Agricultural Society have accepted the proposition of the citizens of New Brunswick, and will hold the next State Fair in that city. Proposals were received from Jersey City, Trenton, and Hoboken, besides New Brunswick. The latter city have agreed to give the State Society for the use of the Fair, the ground rent free, $1200 in cash, and grade (under the supervision of the State Society) for the exhibition of horses thereon, a half mile track 30 feet wide. The Executive Committee met there on Thursday and agreed to accept of the proposition, and hold the Fair there on Tuesday, Wednesday, Thursday and Friday, Sept. 29th and 30th, and October 1st and 2d.

Plots of ground were offered by Hon. James Bishop of that city, and Hon. James Parker of Perth Amboy, and the Committee finally selected Mr. Parker's lot, which the New Brunswicker says, is situated about a mile from the centre of the city, on the "Amwell Road," a few rods above the residence of Professor Strong, and contains about forty acres. In the centre of the lot is a fine living spring, which for a few dollars can be made to give forth water enough of the finest quality to answer the purpose of quenching the thirst of the multitude that will undoubtedly be present. On one corner of the lot, where the Committee propose to put the live stock, is a never-failing stream of water, confined within narrow bounds, which can be dammed up at an expense of $20 to $30, forming a basin of water some eight to ten feet deep, sufficient for all the purposes of supplying steam engines, watering horses, cattle, live stock, &c., that may be required. With the exception of an acre or two of wet ground caused by the water running from the spring, the lot is very dry, nearly level, clear of obstructions, and admirably suited for the purposes of a great exhibition.

## SOAKING SEED CORN.

"The negative results of experiments, made without the guidance of just principles, do not gain in value by their multiplication; and millions of them do not outweigh one successful experiment, if the cause of its success be recognized and ascertained." *Liebig's Letters on Chemistry.*

The most important influence exerted by concentrated manures, appears to be their tendency to develop more promptly and perfectly the germ of the cereals. How it is possible that the embryo should anticipate its future wants, and recognize the supply we cannot divine; but it appears pretty well established that seed may lie dormant for years, until a certain excess of the elements necessary to their *full* development accumulates around them, and thus, or by peculiar cultivation, they obtain the ascendancy over other plants.

200 lbs. of guano per acre, will not insure one grain of guano on every four inches square of surface, or to every 192 cubic inches of soil one foot deep; and yet this infinitessimal portion is recognised by the plant, and sometimes doubles a crop, by some mysterious influence exerted over its development.

Multiplied experiments have proved that a tithe of this quantity placed near the seed will produce the same effect, although two-thirds of the manure are composed of volatile elements which do not contain one-fifth of the weight of nitrogen; and what is still more remarkable, the nitrogenous or ammoniacal manures not only add more than ten times their weight of nitrogen to the plant, but those grains that contain the most nitrogen are least benefited by nitrogenous manures. Have we derived no hints upon this subject from the poor Indian, who to this day presses out a few drops of blood from his slaughtered foe upon his hills of maize? Blood is a highly azotized substance, exceedingly liable to change, and during its state of activity or change is apt to set up fermentation in grains of corn, and those metamorphoses that precede and accompany germination. It was with this view of the case, that I used it in some of the following experiments, which I have requested several gentlemen to repeat in other parts of our state during the past year.

My first proposition is, that any soil properly constituted with regard to consistence and *inorganic* elements will produce double the crop with good cultivation, if we insure a prompt and vigorous growth of the young plant. I say, double the crop that the same soil would produce with the same cultivation, and *without* the prompt development of the germ by *contact* with the solution referred to.

2d. A deficiency of any inorganic element in the soil can be detected and must be supplied, or a corresponding deficiency will result in the crop, notwithstanding the early germination of the seed, and the abundance of all other elements.

3d. An experiment instituted to test the value of any special manure, is worthless and mischievous, if tried on a soil abounding in the elements of that manure, or deficient in some element that it does not supply.

4th. In the absence of any certain knowledge of the elements already existing in a soil,—in order to test the value of any special manure, (plaster for instance,) all other elements should be added *with* it to one plot, and *without* it to another.

Some of the results of analyses of two samples of soil, each composed of several specimens taken from different parts of our four acre experimental lot—a red, ferruginous, sandy soil—containing clay or cement only 31 per. cent, where the experiment without asterisks (No. 2) were tried: and only 41 per cent. in other parts; (whereas all good soils contain 60 to 80 per cent.) Lime and Magnesia abundant, viz., 000, 1·31, or one part and 31,100 of a part, in 1000 parts of soil No. 1; and 000,6.56, in No. 2. A deficiency of soluble silicia in each viz., 0000,046 in No. 1; and 0000.3, in No. 2.

Soda, with a trace of potash, 0001.54 in No. 1, and only 0000.3 in No. 2.

A trace of potash and phosphoric acid in each, but no trace of sulphuric acid and chlorine perceptible in either.

Manganese abundant in both.

☞ Accident might add some of these elements, but no conceivable accident could occasion their absence *from seven parts* of a field, all of which were represented in the samples of soil.

| | No Manure. | "D" Seed corn soaked in blood. | Soaked in blood & Phos. of Potash. | Allen & Needles' Phos. to hills. | A. & N. Phos. with Sol. Silica. | A. & N. Phos. and Sol. Silica. | Silicates of Potash and Soda. | Hilbreth's Phos. & Sol. Silica. |
|---|---|---|---|---|---|---|---|---|
| | lbs. | lbs. | lbs. | lbs. | lbs. | *lbs. | *lbs. | lbs. |
| Weight of ears of corn from 100 hills, | 176 | | | 260 | 278 | 293 | 314 | 285 |
| " 100 ears, | 69 | | | 69 | 72 | 102 | | 75 |
| " stalks from 100 hills, | 264 | | | 250 | 343 | 493 | 436 | 330 |
| " stalks from 100 plants, | 132 | | | 125 | 171 | 172 | 139 | 165 |
| Second series of samples in all of the following, all hills of corn were excluded that had more or less than two stalks. The plot "D" was yellow flint corn, and matured early, the other plots were white corn, | | "D" | | | | * | * | |
| Weight of fodder and corn from 100 hills, | 375 | 310 | 610 | 480 | 600 | | | 600 |
| " ears of corn from 100 hills, | 225 | 120 | 280 | 230 | 260 | | | 270 |
| " stalks and fodder from 100 plants, | 75 | 95 | 165 | 125 | 170 | | | 165 |
| Number of ears from 100 stalks, | 175 | 145 | 195 | 180 | 170 | | | 170 |

"D." was perfectly dry, both corn and fodder, on 15th October, and weighed less than the white corn which should have been a few days in shed, before husking, and especially * *.

REMARKS.—All of this corn was planted on 14th and 16th of May, 1856, except that marked, which was all replanted with seed soaked in a solution of mixed phosphates. The phosphates of Allen and Needles and Hildreth were applied in the proportion of about a handful to each hill of corn, and the corn was planted about $3\frac{1}{2}$ feet apart. I cut and weighed the plots referred to above *in the field*, and husked and weighed the corn at the same time, in order to avoid any error in marking the bags.

Several of the graduates of St. John's College remained after the close of last term, in order to receive some further instruction in analytic chemistry thus I became indebted to Wm. G. Ridout for one of these analyses, and the interest he exhibited in taking the samples of soil and watching with me for the results of our applications.

DAVID STEWART, M.D.,
Chemist of Md. State Ag. Society.

*Laboratory of St. John's College,*
*Annapolis, Oct., 1856.*

## WAY OF USING GUANO FOR CORN.

Mix good guano, thoroughly, with six times its weight of dry, rich loam, several days before using it. Drop half a pint of the mixture into each hill, before planting the corn. You may sow guano broadcast, also, on the same field on which you practice the above method. If the soil is heavy, harrow it in; if light, it may be plowed in with a light plow. This should be done before planting, of course.

## VENTILATING HAYSTACKS.

The British farmers have a method of ventilating their hay, oat and barley stacks, which we may frequently adopt with advantage; and in stacking cornstalks, it would be always beneficial. They fill a large bag, say $3\frac{1}{2}$ feet high and 20 inches in diameter, with straw, and place it vertically in the centre of the stack, putting the barley, oats, or hay—whichever it may happen to be—around it. As the stack rises, they lift the sack; and so on to the top. In this way, there is a chimney formed in the centre of the rick or bay, into which the steam or gases generated find their way and escape readily.—*Wool Grower and Stock Register.*

## THE APPROACHING HARVEST.

From present indications, we shall be blessed with an abundant harvest, both of grass and grain. With this cheering prospect before us, it becomes the duty of the farmer to make such preparations for securing the promised crops as will remove the contingency of a failure in any particular. The first step towards this end, is a sufficient number of hands. The scarcity of harvest hands for several years past, should admonish those who have been in the habit of delaying the securing of help until the very last moment, of the importance as well as necessity of engaging them in time. A very little foresight in this particular will save, perhaps, many an hour of painful anxiety and trouble, as well as much pecuniary loss.

The next step is to get harvesting implements in proper order. There are many farmers who never think of examining their stock of scythes, cradles, rakes, forks, &c, until they are just ready to use them, and in nine cases out of ten, such negligent ones find them either sadly out of repair, or among the missing; either of which dilemmas are not only provoking, but frequently the causes of an hundred times greater loss than it would have cost to repair them in time, or to purchase new ones.

A correspondent in the present number has given us a chapter on Mowing and Reaping Machines, and as these great labor-savers constitute a leading feature in haymaking and harvest, a word or two more on the subject may not be inappropriate. Our position for several years past has been one in which we have had ample opportunities for observing the doubts which fill many farmer's minds in regard to the purchase of a Mower or Reaper. Every new announcement of "*the latest improved Machine*" unfixes previous determination, and as a consequence, the purchase is not made until the last moment. Then, the machine is purchased in haste, and too frequently put to work without that care and attention which are so requisite to complete success. In the hurry and bustle incident to the season, the knives are not properly whetted, the journals are not sufficiently well oiled, the nuts are not drawn as they should be, and many other *seemingly* trifling but *really* vitally important matters, are either wholly neglected or imperfectly attended to. It is not difficult to foresee the result of all this. The machine works indifferently well, (if it works at all) valuable time is lost, if bad weather follows, the crops are damaged, and all for the want of attending to these things in their proper season. We therefore suggest to such as may have been negligent in the points referred to, the propriety of preparing for harvest and haymaking in due season. Do not put your preparations off until the last hour. If you have concluded to purchase a Reaper or Mower, do so at an early day. Take it home, examine every part of it. See that all is in complete order. Be particularly careful that your *knives are sharp*, for this is half the battle. One half of the machines that do not work well, and are of heavy draft, and suffer damage from straining and breakage, might be made to work well, be of easy draft, and far less liable to breakage, if the knives were kept keen and sharp, and the journals were oiled. Try it, and judge for yourselves.

If you have not yet determined which machine to purchase, and are halting between two opinions, our advice is, to buy the *simplest*, for the very good reason that they are not only more easily understood and managed, but they are less liable to get out of repair, and, generally speaking, are the most durable. Buy a machine which has been well tested, and do not allow yourselves to be carried away by flaming advertisements and pages of certificates. Good physicians do not require certificates. Quack doctors and quack medicines depend wholly upon them. The means of ascertaining which are the best machines are within the reach of every farmer, if he will only avail himself of them in time. Of the multitude of Reapers and Mowers which have been and are now presented as candidates for public favor, only three or four have outlived the season of their introduction. Our advice is, to select from those which years of experience have proven good, and we venture the assertion that any one of them, if properly managed, will do the work for which it is intended, satisfactorily. "Keep your powder dry, and don't fire till you see the whites of their eyes," was the advice of one of the most successful revolutionary heroes. "Keep your knives sharp, and do not move your machine until all the working parts are well oiled and the nuts drawn tightly," is our advice.

For the Farm Journal.

## AGRICULTURAL FAIRS AND TROTTING HORSES.

Messrs. Editors:—In the days of good old Job, the horse "rejoiced in his strength," mocked at fear, gloried in the day of battle, and went gallantly on to meet the armed men. But they were men armed with honest single pointed weapons. His enemies have now changed their tactics with their arms, and instead of boring through his gallant breast in a fair field on equal terms, they now use a double pointed weapon dipped in gall, dark as their purpose, and seek to draw from his veins, the pure blood of his noble ancestors, (the free coursers of the desert) by slow degrees; replacing it with a vile compound; which softens his bones, relaxes his muscles, and steals his breath. And to keep his friends in ignorance of his declining state, until past praying for, he is forbidden to try his speed or wind in competition with his fellows, even at our agricultural shows, which some of us foolishly thought were in part intended to test his speed and wind, not the thickness of fat on his ribs. There appears to be a determination to write down the trotting horse, and trotting circle; every agricultural paper from "Dan to Beersheba," has at least one article giving them a scratch, cut, or stab, and some of the best and most useful men in the community (from I think mistaken views) participate in it; but most are led by one of those periodical fits of over much righteousness that "strains at a gnat and swallows a camel." They have driven the race horse off the track, and compel us to go to England, for all our best horses; yes, to the land *of steeple chases, four mile heats* or *king's plates.*

All the best horses in the country are descended from those purchased at enormous prices in England. Much of the milk of human kindness has been wasted in this country over a few over driven horses; but John Bull, has sense enough to know, that the "proof of the pudding is in the eating," and the way to test a chain cable is to strain it, though you do *break a link* sometimes. And here give me leave to add, that the people of England, taken as a whole, are more honest in their dealings, more charitable, in a word more moral, than any other people on the face of the globe, "*the present company always excepted.*" Nor do their *race courses* prevent their bringing the other stock of the farm to the greatest perfection, as every agricultural fair in Europe or America will best show.

But the flying steed and his rider "is a tale that is told." One of the most beautiful and exciting sights on earth has past from this fair land for ever. *Mormon saints* and *knocking ghosts* have taken their place to the great edification of the rising generation. You can put down *manly field sports*, but *drinking saloons* and gambling hells, are left to grow and flourish, watered with the blood and fanned with the dying breath of your sons and brothers.

> "How we hate sins we have no mind to,
> And practice those we are inclined to."

But it is not the race horse in particular we are trying to defend, but his stronger and more useful descendant the trotting horse, though you cannot have the son without the father, nor either without tests of their comparative speed and bottom, and I can think of no place where such trials can be made to so much advantage as at our county and state fairs, under rules and regulations made by substantial farmers and mechanics of the country.

I have now before me your February number containing an article from the Ohio Farmer on this subject. He says, premiums are of four kinds, 1st. To stimulate important interests already known, 2d. To create new apartments. 3d. To encourage experiments, and 4th. To create a community of interests in the fair; and adds, "We cannot conceive how premiums can be safely offered for any other object."

The raising fine horses is an "important interest already known;" therefore will come legitimately under his first head. But I had supposed premiums might be safely offered for the purpose of making the fair attractive, and to increase the funds of the Society. I do not know how it may be in Ohio, but in old Pennsylvania we cannot get on without money. The great mass of the visitors go to be amused, as well as instructed, and it is perfectly fair for the Society to gratify them if they are willing to pay for it. The music cost the State Society more than the best premiums; but it did not follow that the chief object of the Society was to cultivate a musical taste. He says, "Fancy stock takes higher premiums than useful stock." In Chester county it is the useful stock that is the *fancy.* What does the Ohio Farmer call fancy stock? Is it the noble Durham cattle, Morgan horses, Chester county pigs, or Southdown sheep? They are our fancy, after the *female equestrians* he so much dislikes.

If the Ohio Farmer will come to our show next fall, he will see nothing called fancy, that is not useful, with, perhaps, the exception of pigeons, lop-eared rabbits, and ladies' lap dogs; and they do not receive large premiums. He also complains that "trotting horses are put before drawing;" so they should be, for a trotting horse can draw; but a drawing horse cannot always trot. The steam-horse does most of the heavy drawing, and Young America would rather go one mile in three minutes, than three miles in one hour. He next says, "Our farmers do not expect to give over their time to raising fast horses. That would cease to be *farming or breeding.*" I would like to know what it is when it ceases to be "breeding." If the Ohio farmers have any plan of raising fast horses without breeding them, they had better bring the patent on East. County rights would sell high in eastern Pennsylvania. He continues, "It will only tend to ruin our farms and children." "Ruin our farms," must have been put, like the wood under the Yankee spool-cotton, to fill up. And if farmers' children are so poorly instructed, or of such natural phrenological developments as to be ruined by their fathers raising Black Hawk colts and selling them, they had better be sent to the House of Refuge at once, and save future trouble.

But talk and write as we may, we must make our fairs attractive, or they cannot be kept up. I may only wish to see the fine stock, grain, fruits, implements, &c., but that I may do so, I must permit some one else to see *a fine trot;* and I advise all who have conscientious scruples, to shut their eyes when near the track, or frequent some other part of the grounds. I am more particular in mentioning this plan, as it never appeared to have occurred to any of them when I was present; their philanthropy generally leading them to take *front seats* themselves, (I supposed,) to prevent us from being hurt by any accident that might happen on the track.

Is it not better to provide amusements for our children that can be enjoyed in presence of their parents and guardians, than to suffer their own love of pleasure to lead them, when there is neither eye to pity nor hand to save? Europeans think we make a great mistake in having so few holidays, and in not providing more places where manly sports and out-door exercise can be enjoyed. When I was a boy, some forty years ago, we never met at vendue, mustering, or election, without men and boys trying their strength and activity, in pushing the stone, tossing the bar, running, leaping, wrestling, &c. And if I was dictator, Agricultural Societies should give premiums for all of them, including "soaped poles and female equestrians," Ohio Farmer to the contrary notwithstanding. Who that wished for long life, or to enjoy it whilst he did live, would not rather be the son of a Die Vernon, that could ride up to the hounds all day without fainting, than to have the best crotchet or artificial-flower worker in the world for a mother?

The body must be cultivated as well as the mind. Agriculture requires muscle as well as brain. Don't let it be said of us, as of some other countries, "man is the only plant that dwindles here." If we continue our present course of training, it surely may be said with truth. Show me now such men as we used to see attending court at West Chester thirty or forty years ago. I speak of our own county, because I know it best; but I have no doubt that like causes produce like effects, throughout our whole nation. Look at the young men now growing up in our cities—tadpoles; all head, without body or legs; having hardly enough vitality to last them to the age of thirty.

If Washington and the other heroes of the Revolution had been brought up in the same way, would they have brought it to a successful close? We are becoming too Frenchified in our pleasures. Again, a crowded party, or a dance at a midnight ball, seems best to suit our degenerate sons. They will find the Indian hug of the stout waist, to be much safer than the *French Polka squeeze* of the lascivious dancer. ISAAC W. VAN LEER.

*West Nantmeal, April,* 1857.

Our worthy advocate for trotting courses at Agricultural Fairs, evidently has "no mind to" the drinking Saloon, the gambling Hall, or "the French Polka Squeeze," which would seem to argue well for his "righteousness;" but which we fear will not avail him much, so long as he remains so dreadfully "inclined to" Horse-racing—

> "How we hate sins we have no mind to,
> And practice those we are inclined to."

So sure as our Agricultural Exhibitions become dependent for their success on the excitement attendant upon Horse Racing, instead of an heart-felt interest among our yeomanry in the great cause of Agricultural Progress, so surely will they dwindle into mere plague spots, which all good and true men must shun and withdraw their support from. Convince us that horse-racing, *with all its concomitant evils*, does not present a scene of moral depravity infinitely *worse* than either of the other sins alluded to, and we will admit a portion of the argument.

The idea of borrowing tools from the devil to work with in a good and noble cause! Hore-racing, to help along the diffusion of Agricultural knowledge, and the fuller development of our agricultural resources! The "moral force of Sharpe's rifles" to induce brethren to dwell together in unity! We hope our friend will not give way to that fatal error of stumbling at the faults of others; and make use of the inconsistencies of some professors of religion in practising those sins he has

"no mind to," as arguments for indulging in those he is "inclined to," for all are sins—evils of the greatest magnitude, calling loudly for more united opposition; and we look upon racing at our Fairs, as the entering wedge to still greater and legalized liberties, and a searing of the public conscience which has thus far mostly withstood the snare.

## BUCKS COUNTY AGRICULTURAL SOCIETY.

The Fourteenth Annual Meeting of the Bucks County Agricultural Society was held at Pineville, on the sixteenth instant—the President, Wm. Stavely Esq., in the Chair—The minutes of the last annual meeting were read and approved.

Geo. W. Cunningham, James K. Hibbs, David H. Stradling and Charles F. Stapler, were elected members of the Society.

The Committee to grade Premiums and nominate committees to award the same, made a report, which was amended and adopted. A resolution was adopted requiring each competitor for a premium on butter to accompany his specimen with an account of the process by which it was made.

The Committee appointed to attend to procuring a charter from the legislature, reported that the legislature declined entertaining the petition, inasmuch as the Courts have power conferred upon them to incorporate Agricultural Societies. On motion a committee was appointed to prepare a form of application to the Court for a charter, viz.: W. T. Rogers, Adrian Cornell, John Blackfan, Edmund G. Harrison, John S. Brown, J. Watson Case, Jonthan Knight and Hector C. Ivins.

The committee to visit Burlington County Agricultural Society reported that they attended the Exhibition and found a very good display, considering the heavy rain of the day previous—especially in the department comprising fruits and vegetables.

The Committee to visit the Montgomery Agricultural Society did not attend.

The Committee to visit the United States Agricultural Society reported that they attended the exhibition at Philadelphia, and found an excellent display, judicious arrangements, and a very large attendance.

The President reported in writing an account of his visit to the Agricultural Fair at Allentown, Pa., on the 2d of October last. Gov. Pollock delivered an address, which he pronounces truly valuable and practical—replete with good sound instruction. The grounds of the Society contain 11 acres, enclosed with a substantial board fence. Their track for exercising horses is fifty feet wide and seventeen hundred feet in length, well graded. A building near the centre of the grounds, fifty by one hundred feet two stories high, with an observatory, affords a safe depository for nearly all articles on exhibition, except the stock, which is provided for by sheds four hundred and thirty-five feet in extent. The cost of the building was about $6,000, and of the whole property about $11,000. The exhibition was continued four days—with perfect order; and was highly credible to the enterprise, industry, and taste of the people of Lehigh. The President, in concluding his report, expresses his thanks to the President, (Mr. Hiram J. Schantz) and other members of the Lehigh Society, for their polite attention to him.

The Chair appointed Daniel Pidcock and E. G. Harrison to audit the Treasurer's accounts. They reported that they had compared his statement with his vouchers and found it correct; and that $22 59 remain in the hands of the Treasurer. The following is his statement:—

JACOB EASTBURN, Treasurer, in account with the Bucks County Agricultural Society, Fourth mo. 16th, 1857:

DR.

| | | |
|---|---|---|
| To Cash, from | Charles Johnson, last year, ice cream, | $ 29 00 |
| " " | Samuel Buckman, ice cream, | 67 00 |
| " " | Lewis Buckman, grass on lot, | 30 00 |
| " " | Instalments, | 133 00 |
| " " | Amount received at gate, | 935 00 |
| " " | New Members, | 15 00 |
| " " | Appropriation from County, | 100 00 |
| | | $1,309 61 |

CR.—By payments as per receipts.

| | |
|---|---|
| Balance due Treasurer, 4th mo. 17th, 1856, | $172 16½ |
| Six months' Interest on the same, | 5 16 |
| Premiums in Money, | 594 00 |
| " " Books and Papers, | 95 67 |
| Work on Grounds, | 60 18½ |
| Materials, Lumber, &c., | 50 62 |
| Hay for Stock on day of Exhibition, | 21 94 |
| Printing, | 185 83 |
| Entertainment for Visitors and Committee, | 27 00 |
| Taxes, | 13 10 |
| Store Bill, | 29 35 |
| Interest on $500—Debt on Lot, | 30 00 |
| | $1,285 02 |
| Uncurrent Note, | 2 00 |
| | $1,287 02 |
| Balance in hands of Treasurer, | 22 59 |
| | $1,309 61 |

The Chair appointed the following committees to visit other Societies:—

Montgomery County Agricultural Society—Jacob H. Rogers, James M. Wilkinson, John Polk.

Burlington County Agricultural Society.—Robert Longshore, Adrian Cornell, Jonathan Knight.

Philadelphia Agricultural Society, James C. Cornell, John Blackfan, Edward Williams.

Lehigh County Agricultural Society,—Hector C. Ivins, Samuel Buckman, Moses Eastburn.

Philadelphia Horticultural Society, W. T. Rogers, Samuel T. Buckman, John S. Williams.

Pennsylvania State Agricultural Society,—Alfred Blaker, Silas L. Atkinson, John K. Trego.

United States Agricultural Society,—Wm. Stavely, Geo. W. Cunningham, W. T. Rogers, Adrian Cornell, Richard E. Ely.

Northampton County Agricultural Society—W. T. Rogers, J. Watson Case, Edward H. Worstall.

Hunterdon County Agricultural Society—Samuel T. Buckman, George Buckman, Isaac Randall.

On motion, it was resolved that the President and Secretary furnish each visiting committee with a certificate of their appointment, and that each committee have authority to fill vacancies occasioned by members failing to attend to their appointment, and that they may be required to report in writing, to the next annual meeting, the result of their visit.

The Committee to prepare a form of application for a charter made a report, which was adopted. They also reported the following resolution, which was adopted:

*Resolved*, That a committee be appointed whose duty it shall be, as soon after the granting of the proposed charter as may be expedient, to convene and prepare such rules and by-laws, in accordance with the charter, as they may deem requisite; said rules and by-laws to be submitted to a general meeting, the members to be convened at such time and place as may be appointed by said committee for their action. The following committee was appointed; W. T. Rogers, Adrian Cornell, John Blackfan, Edmund G. Harrison, John S. Brown, J. Watson Case, Jonathan Knight, Hector C. Ivins.

W. T. Rogers, Hector G. Ivins, John S. Brown, and Jacob Eastburn were appointed a committee to attend to procuring a charter from the Court.

The committee on the Society's grounds reported that they deem it inexpedient to plant trees upon the grounds. The committee was continued, viz.: Samuel Buckman, Robert Longshore, John Barnsley Edward H. Worstall and Adrian Cornell.

On motion, the proposed amendments to the Constitution were deferred.

The time for holding the next annual exhibition was fixed for Wednesday, the 23d of September.

An election was held for officers of the Society for the ensuing year, which resulted in the choice of the following persons:

President, Wm Stavely.

Vice-Presidents, Jacob H. Rogers, Hector C. Ivins, Robert Longshore, John Blackfan.

Recording Secretary, John S. Brown.

Corresponding Secretary, Edmund G. Harrison.

Treasurer, Jacob Eastburn.

On motion, the thanks of the Society were tendered to the Commissioner of Patents for his attention in forwarding seeds, &c., to the Society.

On motion, the meeting adjourned.

## DRILL SOWING vs. BROADCAST.

We have frequently directed the attention of our readers to the increased advantages of Drill seeding over Broadcasting, and have urged upon them, the adoption of the former method. We are pleased to observe that very many, perhaps a majority of farmers, have adopted the drilling system, but by far too many yet cling to "the good old method." The following sensible and convincing articles we copy from the Country Gentleman, commending them to the careful perusal of those who prefer the broadcasting system.

Speaking of drills, we take pleasure in stating that one enterprising firm in Eastern Pennsylvania has orders for, and is building *eighteen hundred* grain drills for the coming season. The drill for which there is so great a demand, is Pennock's, one of the best, (we think *the* best) in use.

MESSRS. L. TUCKER & SON—I noticed in your paper of the 19th inst., an inquiry in regard to the "advantages of drill sowing over broadcast sowing," which I sincerely hope will not pass unnoticed by such of your readers as have had experience and observation in the matter, not only at the "west," but in the "east." I am not a practical farmer, though much interested in agriculture and agricultural implements. So far as I am informed by reading treatises upon the subject, by observation and by experimenting myself upon a small scale, "drill-sowing" does possess several decided advantages over broadcast sowing, whether by the hand or by a machine. Seed that is drilled in, is covered more evenly, or is deposited at a more regular distance apart. When seed is sown broadcast and covered with the harrow, bush or roller, it is covered at different depths, varying from some four inches to nothing, and lies from one seed to fifty to the square foot; and if it is important that corn, beans and potatoes should be covered just one inch deep, more or less, why less so in regard to wheat, rye, oats, &c.?

Last season I planted five oats about four or five inches apart and one inch deep, in good soil, though not manured for two years; and did nothing whatever to them till cutting them, when I found sixty-seven stalks, averaging from eighty to one hundred oats to each head—being over ten hundred fold, instead of only from 30 to 50 fold, the ordinary yield.

I know of no reason why a whole field would not produce the same rate if planted as properly. In broadcast sowing the seed falls so "thick" upon spots, that the light and heat cannot have their full effect upon the stalks while growing. There is too great a draft upon the soil underneath; and upon other spots so little seed falls that the weeds get the start and hold the soil by prevention, producing seed of their own for another season. If grain was deposited at the right distance apart and under the surface, I think that not more than one half the amount would be required per acre, that would be used in the ordinary way. There would be less, if indeed any sickly stalks, supporting dwarf heads filled with nothing.

In regard to the kind of seed sowers, undoubtedly that one is the best that deposits and covers the seed the most evenly, with the greatest despatch, without cutting or breaking the kernels, and will leave the field the smoothest, i. e., without foot or wheel prints, taking into account also the first cost, and the amount of work done—i. e., whether it simply sows the seed, or sows and covers, or sows, covers, and rolls with one operation—and also whether it may be used by a boy, or whether it requires an experienced man.

Another writer says:

"Drilling is incomparably the best way of putting in wheat. The grain is more equally distributed and better planted. It stands the winter better, and produces more. Beside this more than half a bushel of seed is saved to the acre. The drill I use was made by Kirk, at the Rising Sun, Cecil county, Maryland, and cost about sixty dollars. It measures the ground, distributes the seed in any quantity desired, and covers it very well. Two horses drill about seven acres a day.

A drill of this kind would answer for several small farms and would pay for itself in a year. At least mine did.

I have used the gang plow for seeding wheat, but the part thus seeded was so much inferior to the rest, which was harrowed in, that I have never used it since. A neighbor of mine who borrowed it, and put in some wheat with it, had to lament similar results.

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The dung of a sea fowl yields 45 per cent. of uric acid and ammonia; while horse manure has less than one per cent. The reason is, in quadrupeds, the nitrogen escapes by the kidneys; in birds, it escapes in the dung, by the bowels.

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Guano contains salts of ammonia, alkaline phosphates, and the other mineral substances necessary to produce the grain of wheat, but is deficient in the elements necessary to form roots and straw.

## GROWTH OF COTTON IN THE UNITED STATES.

During the year 1784 an American vessel having *eight bales* of cotton on board, was seized at Liverpool, on the plea that so large an amount of cotton could not have been produced in the United States. The shipment the next year amounted to fourteen bales; in 1789 to 842 bales. An old Carolina planter having gathered his crop of five acres, was so surprised and alarmed at the immense amount they yielded, which was fifteen bales, that he exclaimed, "Well, well, I have done with cotton, here is enough to make stockings for all the people in America."

In the year ending 30th of June, 1856, (seventy-two years from the period of the shipment of the eight bales in 1784,) there were exported from the United States, 1,351,431,701 pounds of cotton;—making, at four hundred pounds per bale, 3,378,579 bales, and in value, $128,382,852. Cotton exported in the year ending June 30th, 1855, to the value of $88,143,844. Total in two years, $219,526,195—an amount that the "old Carolinia planter" or any of his cotemporaries never dreamed of in their philosophy.

In connection with the above, it would have been very gratifying could we have given the amount in bales or pounds of cotton manufactured in this country during the two years ending 30th of last June, but we have no statistics showing the amounts. We have the official returns showing the value of our exports of manufactured cotton in the above named two years, which "foot up" $12,824,490, which added to the raw cotton exported, amounts to the astounding sum of $229,350,685.—*Country Gentleman.*

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*Chaddsford, Delaware Co., Pa., April 24th*, 1857.

EDITORS OF THE FARM JOURNAL:

I wish to state a fact in relation to the mixing of potatoes when planted near together. In the spring of 1853 a neighbor presented to me a few potatoes, that had just arrived from England in his ship.—They were large, round, red potatoes—the skin was uniformly red, and the flesh was streaked with red veins. I planted them in a row and a half, with three rows and a half of Mercers on one side of them, and immediately adjoining. Three weeks later the remainder of the potato patch, on the other side of the English, was planted with Mercers.

In the fall they were dug in the presence of a neighbor and myself, and to our great astonishment we found the potatoes mixed from one side of the patch to the other. The large, round, red, English potatoes were quite numerous in the outside row, in which Mercers had been planted three weeks after the English, and *thirty-seven yards* from them. In the rows where the English had been planted, there was a corresponding proportion of the Mercers. On the same root would be tubers of both kinds—the Mercers and the English,—were each well defined in its peculiar color and form. This was an unexpected result, for though I had heard that such things had happened to others I never believed it.

The next year the experiment was repeated, by obtaining some more of the pure English from Capt. Talbot, who had kept his stock pure by planting them in his garden, far away from his other potatoes. Five rows were planted in the middle of the patch, and fifteen rows of pure Mercers were planted on each side of them. The result was precisely the same as before. They were mixed all over the patch. The Mercers predominated in the rows where they were planted, and the English held a majority in their own rows, but they were *mixed* in both places.

The mixture thus produced was planted on the two following years, and each year the blending of the two varieties became more and more complete. The distinctive characters of each were lost, and they became of uniform size, shape and color; being neither Mercers nor English but a combination of the two.

It is well known that our Indian corn will mix when different varieties are planted near each other, and we understand how it takes place. The dust of the tassel, which is the pollen or male germ, blows from one stalk of corn and falls upon the silk of another stalk. The grain of corn on the cob, which is thus the offspring of dissimilar parents, partakes of the appearance and character of both.

Pumpkins and squashes will mix in the same way, so that a common field-pumpkin vine will bear a hybrid or mule fruit, which has the hard, warty rind of the squash. By this rule we could easily understand how potato blossoms might unite the male germ of one plant with the female germ of another plant, and thus make the *seeds* of the potato plant a mixed offspring; but we *cannot* understand how such a mixture of germs could effect the tubers which grow on the root of the plant. As this, however, is the only way I can think of by which the result can be produced, I shall try some experiments this summer to test that matter.

Very respectfully, CHALKLEY HARVEY.

## AMERICAN GRAPE VINE IN EUROPE.

It appears from a letter read before the last meeting of the Cincinnati Wine Grower's Association, by Mr. Robert Buchanan, one of the largest and most successful cultivators of the grape in that region, that the American grape is being substituted to a considerable extent in the vineyards of Europe, for the native varieties, on account of its exemption from the prevailing disease. We extract the following:

Of late years, since the appearance of the disease called the "Oidium," amongst the grape vines of Europe, the attention of the wine growers of that continent has been anxiously turned to find out some means of arresting its ravages—or to discover such new grape vines, as would be exempt from this alarming disease, which threatens to destroy the old varieties now in cultivation.

Recent experiments have proved our *Catawba* and *Isabella* vines to be well adapted to the soil and climate of many parts of Europe, and entirely free from the "Oidium."

Mr. S. J. Kellogg, of this city, who resided for some years in France, has lately received an order from Bordeaux for cuttings and roots of our American varieties, and Col. Marshall P. Wilder, of Boston, has been commissioned by the government of Belgium, to send over all our best selection of grape vines, and also samples of our wines.

Both these gentlemen are assured by their correspondents, that the American vines already tried, are quite healthy, and promising as wine grapes.

I am permitted to make the following extract from a letter received by one of the gentlemen above named: It is dated "Bordeaux, 12th February 1857. My friends in Belgium, to whom I had mentioned that I thought from the perusal of the book you gave me when there, that the vines of Ohio had been attacked by the "Oidium," as well as our own, write to me that it is a mistake. The vines of German or European origin, may, they say, have been attacked by the disease, but not the Catawba, Isabella and other American vines.

"Some of those gentlemen who, in Languedoc and other parts of France, have cultivated these vines affirm that in the midst of the vineyards which are tainted, the Isabella, Catawba, &c., have hitherto passed unscathed; and I have the same testimony from other reliable quarters. These circumstances render the inquiries made in and for Belgium, still more interesting, and I do not hesitate in imparting them to you.

"I shall be anxious to know when I may expect to get the vine plants I took the liberty to ask for, if I have been in time."

This is a new item in the value of grape culture in America. Not only is the wine wanted for home consumption, but the vines for export abroad.

Mangel wurtzel consumes 160 pounds of common salt to the acre. If it is not in the soil in the form of chloric acid and sodium, salt must be applied to the soil, or a poor crop will be the result.

## CULTIVATION OF THE PEACH.

I now propose to consider the raising of young trees, with some remarks on budding, after culture, &c. The only method used for propagating the peach is from the seed or the pits, and in no branch of Horticulture can I conceive it of greater importance to secure *good seed* than that of the peach. I would as soon have the Canada thistle sown with grass seed, or the wild onion with wheat, as I would plant and grow diseased peach pits, if I knew it.—There is scarcely any part of the country where *budded* trees are planted which is exempt from the yellows. No *cure* has yet been found for this disease, except instant and entire eradication by removal and burning, which I must urge as of vital importance.

It is the planting and rearing of young trees from city-picked pits, and other domestic sources, that is sowing the mischief broadcast over all the land; and until we have more honest or more intelligent cultivators, we may expect plenty of the disease called yellows.

Now, without desiring in the least to impeach any *respectable* person in the Nursery business, I speak of a fact when I say that I knew a man to distribute throughout the country, some 12,000 peach trees, raised, as he himself assured me, from domestic pits, the best of which are of doubtful quality.

### MODE OF PLANTING.

Assuming that a good seed has been obtained it is customary to provide a bed of clean sand in some out-of-the-way corner of the farm or garden, where it may remain for years. On a layer of sand four inches deep, a layer of pits is spread (*in the Fall*) two inches thick, which are covered with two inches of sand. In the Spring, perhaps two-thirds of them will have sprouted, and should be carefully removed to the nursery, and planted in rows four feet apart and six to eight inches in the row. The ground should be wholly occupied by the trees, instead of having here and there a vacant spot planted with *vegetables*. A healthy, well-developed, growing plant, needs *sun and air* as well as simple ground room.—Of course, clean culture is not only desirable, but understood to be absolutely necessary. Thrifty, healthy and vigorous trees being the object, frequent stirring of the ground, careful weeding, plucking up the *underlings, &c.*, is *essential.*

In August and September, these young plants require budding, which should be done with judgment and care, or the labor is lost and the trees are materially injured. As I consider this matter of *vital* importance, I propose to dwell on it sufficiently long to be clearly understood. Let us suppose that 200,000 peach trees are annually sold from New-Jersey. This immense distribution, therefore, ought not to be intrusted to ignorant and unskillful cultivators. I will first show the difficulty, then point out the remedy. The most formidable enemy to the success of the peach is the disease called *Yellows*, which I shall simply define as a premature and incurable decay, the leaf assuming in its last stages a sickly yellowish cast; hence the name. Now I hold that this *disease is extensively propagated by budding*, just as sure and certain as that any virus is infused into the human system on the point of a knife. It is, therefore, of incalculable importance that the budding should be intrusted only to skillful and intelligent hands,—those familiar with the various phases assumed by this disease,—who would in time *work* this wide-spread disease out of existence. With the utmost vigilance, some plants may turn out diseased, or yellow. An early and total eradication has already been proposed.—*American Agriculturist.*

*Morristown, N. J.* WM. DAY.

## PLANTING THE CHINESE SUGAR CANE.

We have before directed in general terms to cultivate similarly to Indian Corn. As most of our readers will plant merely for experiment the present season, we advise to divide what seed they have into say four portions, and plant a little on two kinds of good corn soil, as soon as it will do to risk it against the frost, and reserve two portions for later planting on two other portions of similar soil. As stated in our November issue, we did not plant until near the end of May, last year, and yet most of the seed matured before the frost of the 2d of October. The soil was comparatively poor, and unmanured. A little bone-sawings were placed in the drills with the seed, and in July and August three or four waterings were made with sink-slops.

At the north of this, it will be a good experiment to cut a few square pieces of turf or sod, say two inches in diameter; place a seed or two in the centre of each, and put these into the surface of a box of earth, to be kept in the house or cellar until all danger of frost is past. The plants will get a start, and the separate pieces of turf may then be set in the open ground. These may be prepared at once. A few experiments of the above kind can be made with little trouble, and interesting results may thus be obtained.

The Chinese Sugar Cane will not mix or hybridize with the Common Indian Corn, but it must be kept at a distance from Broom Corn, as well as from the Doura or Guinea Corn, or the seed will be vitiated and unfit for future use.

It may be planted in hills three feet apart each way, on poor soil, and four feet apart on rich soil, where the plants will grow larger and require more room. If seed is abundant, put eight or ten in each hill, and afterwards thin out to four or five stalks.

If seed is scarce, put four to six seeds in a hill. We prefer, for smaller experiments, to plant in drills, dropping the seeds two to four inches apart, and thinning out five to six inches when the plants are well started, say at the second hoeing. The seed should not be covered deeply. Unless very dry weather prevails, one inch of fine soil is full as much as is needed over the seeds. The subsequent treatment, hoeing and weeding, is to be the same as for Indian corn. At the appropriate season, we shall speak of trials for feeding, syrup-making, gathering seed, &c. If one seed in every ten we have distributed comes to perfect maturity this year, there will be plenty of it another year at a nominal price.—Every well-grown stalk will yield from twelve hundred two thousand seeds or more. A dozen or fifteen stalks will furnish seed for an acre at least. We are not so certain as some that the seed will be in great demand next year, though we hope it may. This plant has to go through its ordeal the present year.—*American Agriculturist.*

## PLANTING KING PHILIP OR BROWN CORN.

This variety requires no different treatment from other kinds, but it is to be planted and cultivated in the same manner. The chief excellence claimed for it is, that it grows rapidly, and comes to quicker maturity. It is valuable for putting into hills where other varieties have failed to come up, or have been destroyed, as it will overtake its slower growing neighbors. But when seed is to be saved, it should be entirely separated from other kinds—not even in an adjoining field, for all varieties of corn readily cross with each other. Let it also be kept in mind that the King Philip produces but a small stalk, and that the hills must be nearer together if a large yield is desired. Three feet rows, with the hills two and a half feet apart in the row, will give ample room. However, where but a few kernels are put out to raise future seed, it is well to give them plenty of space. But for its weight, and the expense of postage, we should have been glad to send much larger quantities to every applicant. In every case the parcels sent out have been weighed on a Post Office balance, and there has been put into each envelop every kernel that would not increase the postage beyond the one or two stamps affixed.—*American Agriculturist.*

## SUGAR BEET.

We cannot too often or too confidently recommend the cultivation of this excellent field crop. It is a greater yielder, hardy, easily raised, and is superior, we think, to any vegetable grown for milch cows and fattening cattle, especially when fed raw. We have grown large quantities for our own use the past seventeen years, and can therefore speak of it practically and experimentally. One of our neighbors—a lady farmer—informs us that she made thirty pounds of butter per week from six cows, in December, fed upon hay and sugar beet. She adds, that the butter was fully equal to the best made in September and October, on rich pasture.

The Sugar Beet does best in moderately rich, loamy soil, but will grow where any other root does. The seed should be soaked two to four days in tepid water, previous to planting, so as to insure its germination. If planted without first soaking, its shell is so hard it is a long time germinating. Hence the ill success of many who do not take this into consideration.

For field cultivation the rows should be three feet apart, so as to admit working easily with the cultivator among the rows. The plants, when finally thinned out, should not stand nearer to each other than six inches in the row. It can be pulled and secured in the fall the same as turnips.

The best variety is the White Silesian, though the French Yellow has been so much improved lately, we are informed it has become nearly as good as the latter. We have never found it to keep so well.

The beet requires about four pounds of seed per acre, and can be planted very rapidly in drills with a seed-sower, costing about eight dollars.—*American Agriculturist.*

## RAIN-WATER CISTERNS.

EDITORS SOUTHERN CULTIVATOR:—As I am writing, permit me to give you a plan by which the purest and most healthful water that ever slaked the thirst of man may be had in any climate on the globe where rain descends, with but little expense. I wish to put an end to that eternal inquiry, with those who contemplate leaving their native home, and their "Father's Spring," to look out a location in the "Far West," viz: "Is the water good?" and the reply not unfrequently is, "No sir; very bad."

If you want good water, construct a cistern in the following way:

Dig it round; any depth and width you wish it (I have just put on the first coat of cement on one 12 by 20 feet) and plaster it with mortar made as follows:—Procure good white sand; put for the first coat, 3 parts of sand and 1 of hydraulic lime; for the second coat, 2 parts of sand and 1 of lime, and the third coat, 1 part of sand and 1 of lime. After you have plastered it, side and bottom, turn an arch of good brick over the top, and "grout" it well on top and plaster underneath; then insert a good pump, and you have good water anywhere, all the while, by conveying rain water from the gutters into the cistern.

The above receipt for making mortar I obtained a short time since, from Dr. M. W. Philips who knows something of everything partaining to plantation economy. Yours, &c.,

*Utica, Miss.*, 1857. G. D. HARMON.

## THE REMAINS OF BLACK HAWK.

David Hill, Esq., of Bridgport, Vermont, has generously donated the osseous remains of this once highly prized horse to the Veterinary College of Boston, and they are now in the possession of the Faculty, undergoing the necessary preparation, and ere long we shall give the public an opportunity of viewing the skeleton of an animal whose fame is equal to that of the most distinguished of the equine stud of America.

Most of our readers are probably aware that Black Hawk was sired by Sherman Morgan. His dam was a three-quarters-blood mare, obtained from the Provinces. He was remarkably intelligent, (an attribute of the horse which some persons question,) and was never known to exhibit the least combativeness, but was in the stable rather docile for a stud horse; yet a snap from Mr. Hill's fingers would arouse the latent fire of his disposition; then he was all action, all horse, yet graceful and tractable.

On Thursday, February 12th, we arrived at the residence of Mr. Hill. Next day, the remains of the animal were disinterred from their resting place. We observed that he had been decently interred, about six feet below the surface of the earth; his body resting on some clean straw. His shroud was composed of blankets, and over all was placed a large door. He had been in the ground for a period of 74 days, having died on the first day of December, 1856; yet owing to the coldness of the season, his body was in a better state of preservation than might otherwise have been expected. Hence, we had an opportunity of forming some idea of his condition at the time of death, and the cause of the same, which we shall refer to in a subsequent number of this Journal.

It was our intention to divest the bones of their muscles and tendons, and in this state bring them to Boston; but on a few hours' exposure to the atmosphere, they became very offensive, consequently, it was thought best to cleanse and prepare them. In performing this task, Mr. Hill and his son Charles rendered us every assistance in their power, and to them we are under great obligations. Want of space prevents us extending these remarks, and we shall therefore postpone the subject for our next issue.—*American Veterinary Journal.*

## CASE OF TOOTHACHE IN THE HORSE.

A rather unusual case occurred within the last week in the practice of Mr. Ferguson, Her Majesty's veterinary surgeon in Ireland. A horse, belonging to a person named Walker, living in Brunswick street, had been condemned as glandered, and ordered to be destroyed, his owner having been prosecuted for allowing him on a public thoroughfare. The animal was wasted in condition, and had a profuse discharge from one nostril, similar to that of glanders. On making some inquiries relative to the history of the case, Mr. Ferguson ascertained that the animal occasionally could scarcely masticate his food. This induced him to examine the horse's mouth, with a view to ascertaining the state of his teeth. Seeing one of the upper back teeth (the last but one) discolored, he determined on extracting it, fancying that it was affected with caries, and that an abscess had formed at its root and burst into the nose, thus giving rise to the fetid discharge from the nostril of that side. On drawing the tooth, which was accomplished by a leviathan instrument exactly resembling the key tooth-extractor for the human subject, Mr. Ferguson's surmises were found to be correct. There was not alone decided caries of the tooth, but also a large chronic abscess at the extremity of its socket, the contents of which had forced a passage for themselves through the bones into the passage of the nose, profusely furnishing the nostril with a most offensive discharge, which had been mistaken for that of glanders, and well nigh was the cause of sealing the animal's fate. Since the extraction of the tooth the discharge has ceased, and the horse masticates his food properly, and has evidently improved in health, strength, condition, and spirits, being now able to do ordinary work. Thus dental surgery is occasionally as requisite for the horse as for his master.—*English Paper.*

The old horse "Charley," who was owned for many years at what is now called the Massasoit House, Barre, was killed by his owner, having become so old and weak as to be unable to get upon his feet. He was raised in Vermont, and his age was forty-three years eight months and seventeen days.—*American Veterinary Journal.*

## LIBERAL DONATION.

F. A. Michaux, the distinguished botanist, (now deceased) has given eight thousand dollars to the Massachusetts Agricultural Society.

## A NEW FERTILIZER.

In a former number of the Farm Journal, we referred to the proposed manufacture of a new fertilizer, a patent for which had been taken out in England. This fertilizer is made by treating the blood and offal of animals with sulphuric acid, and adding thereto a proper proportion of phosphates, &c. The proprietors of the patent visited the United States for the purpose of securing it here, also; but found that Prof. Hare, of this city, had patented the same process several years before. Upon the strength of this discovery, a company with a large amount of capital has been formed in Boston, and is now in successful operation. It is also proposed to establish a company here; and we have no doubt, from our knowledge of the constituents of this fertilizer, that it will prove one of the most valuable ever introduced. We had an opportunity of examining a sample of it a few days since; and so far as we could judge from appearance and smell, we have no hesitancy in commending it to the attention of farmers.

## THE PROSPECT AHEAD.

From present indications, we are likely to be again blessed with bountiful crops. The reports we have seen from our own and adjoining States, all agree in representing the Wheat as looking remarkably promising.

The wet weather of April and March has had a tendency to retard the growth of oats and barley, but every thing looks encouraging in that direction now.

We look for a heavy crop of grass. A cold, wet April, if followed by genial May weather, is almost certain to give us heavy crops of grass.

The fruit, so far as we can learn, is still safe, and we hope it will remain so. Taken as a whole, the prospects of the farmers were never better in our vicinity.

## A GLANCE AT PROF. JOHNSON'S ANALYTICAL RESULTS.

We promised last week a brief review of Prof. Johnson's results, in the examination of manures, as reported in our columns last year; and we do so reluctantly, as a work of such magnitude and importance cannot be thus briefly comprised and anything like justice done it.

Mr. Johnson commenced by giving a statement of those manurial substances which have the greatest commercial value, and which are least common, and at the same time indispensable to the plant. Phosphoric acid, ammonia, and potash are the only substances which should be considered as giving value to a concentrated fertilizer; and of these the first two are, in common cases, only, to be considered in estimating the value of a high-priced fertilizer. He then determines the price at which the phosphoric acid in its two forms—*insoluble*, in bone phosphate of lime,—and *soluble*, in superphosphate of lime—can be bought—and basing that of the former upon that of ground fresh bones, he estimates it at 1½ or 2 cents per pound—and doubles the price for the value of soluble phosphoric acid, 4 cents (which is understood to include the cost of bones, of sulphuric acid, and the labor of preparation—not, however, allowing for *profits* to the manufacturer.)

The price of ammonia in its two forms—*actual* ammonia, and "*potentait*" ammonia, (which last includes the ammonia which *will be found* where nitrogenious bodies decompose) was estimated from the price of Peruvian Guano, ($54 per ton,) which is the cheapest source of its supply; actual ammonia was valued at 16 cents per pound, and potential ammonia at something less—13 or 14 cents.

Potash he estimates as worth not far from 4 cents per pound, though this is too much.

His principle is to make a valuation of all manures upon these prices, which represent the cheapest rates at which the ingredients can be bought in shape to apply to the land; accordingly he subjects all the various 'fertilizers' he can obtain to analysis, and then estimates its value according to the price of its constituents. For instance, he takes a sample of Peruvian Guano, of fair quality; 15 lbs. in 100 are ammonia, worth 16c per pound, $2.40; and 15 pounds of phosphoric acid at 2c, is 30c—together, $2.70 for 100 lbs. of guano or $54 for a ton, which was exactly the wholesale cost last season. Other manures should bear measurement by the same standard. To the prices, which by this analysis he was led to give as the value of any manure should be added the cost of transportation and a fair profit to venders—and allowing 10 to 20 per cent. for this, we may easily arrive at a near approach to what the fertilizer ought to sell for.

The result of a long series of some 40 or more analyses shows that of all the high-prized manures in the market, Peruvian Guano is the cheapest, and, in a commercial sense, worth the money it sells for. The difference between the commercial value of a manure and its manurial value, cannot be too clearly

kept in view in all comparisons of manures with prices;—a poor quality of superphosphate may produce effects which will make it cheap at $100 per ton, yet that would be a most extravagant price. In the same way we find the price at which "superphosphate" sells is very far above its commercial value; and the same is true with many other manures—in fact with all, except, as we have said, Peruvian Guano.

The manures analyzed were, *Peruvian Guano*, valued at $54 per ton; *Pacific Ocean Guano*, valued at $19.20 per ton; *Ichaboe Guano*, calculated value $22.20; *Te Fue*, of Lodi Co., N. Y., selling by the ton ($35) was estimated by the same standard as worth $11.20; *Poudrette* of Liebig Co., East Hartford, was analyzed, and as it sells by bulk, and not weight, no close estimate was made of its value per ton—it was estimated as worth, chemically, three times as much as its own weight of best stable manure, and its convenient form and freedom from weed-seeds giving it a still higher value. *De Burg's No.* 1 ammoniated superphosphate, $25.20 calculated value; *Coe's Improved*, $24.32; *Mapes' nitrogenized*, $16.58; *Pike's*, $12.23; *Hildreth's*, $3.94; (*Best English*, $25.00; *Mapes'* in 1852, $26.62; *De Burg's* in 1852, $19.66); *Fish Guano*, of the Narragansett Co., $17; *Fish Compost*, of same company, valued as worth a little more than good horse-dung; *Muriate of Lime*, value estimated at less than that of leached ashes.

These are some of the most important of the results of this very accurate and most important series of analyses as expressed in terms that cannot be misunderstood, ($. and cts.) The manurial value, we repeat, is not represented thus, for leached ashes worth 6¼ to 12½ cents per bushel may have a higher manurial value on some crops or some land than Peruvian Guano worth $60 per ton. It is likewise to be observed that all manures are worth more now than they were a year ago, at least ten per cent., and the valuation of the pound of ammonia and of phosphoric acid should be set a little higher in consequence.—*Homestead.*

AGRICULTURAL IMPLEMENTS.—The largest assortment of Plows, ever offered in Philadelphia, consisting of *Eagle, Blaker, Prouty, Subsoil, Side Hill, Peekskill* and *Star* Plows; also Expanding Harrows of various sizes, Square and Geddes' Harrows, Expanding Cultivators, for field and garden, hand plows, farmer's boilers, barn door rollers, wheel and canal barrows, ox yokes and bows, hay, straw and fodder cutters, cast iron rollers of various sizes for field and garden revolving horse rakes, seed drills, grindstones, premium Star corn shellers, of different sizes, Reading's power corn sheller, grain fans, hay and manure forks, picks and mattocks, draining tile, &c., with all other implements needed by the farmer or gardener.

PASCHALL MORRIS & CO.,
Implement and Seed Store, 7th and Market, Philada.
Apl—

For the Farm Journal.

## THE COTTER'S BLESSING.

BY JOHN H. BAZLEY.

An aged man of four score years or more
Was sitting meekly at his cottage door;
His flowing locks were white as driven snow,
While placid resignation sat upon his brow—
Remote from towns he'd led a virtuous life,
And ne'er had mixed in vain ambition's strife.

I marked him well—his sunburnt, furrowed face,
His hardy hands which oft had held the trace,
His feeble frame, his shoulders bow'd, and dim grey eyes,
All told of other days and thoughts beyond the skies—
As fruit grown fully ripe falls from the tree,
So he seemed ready for eternity.

Close by his chair two little children played,
Sweetly unconscious in the portal shade;
Ardent but artless, innocent yet wild,
The lovely offspring of his only child—
The mother, mother like, stood at the door,
Watching her dear ones gambol on the floor.

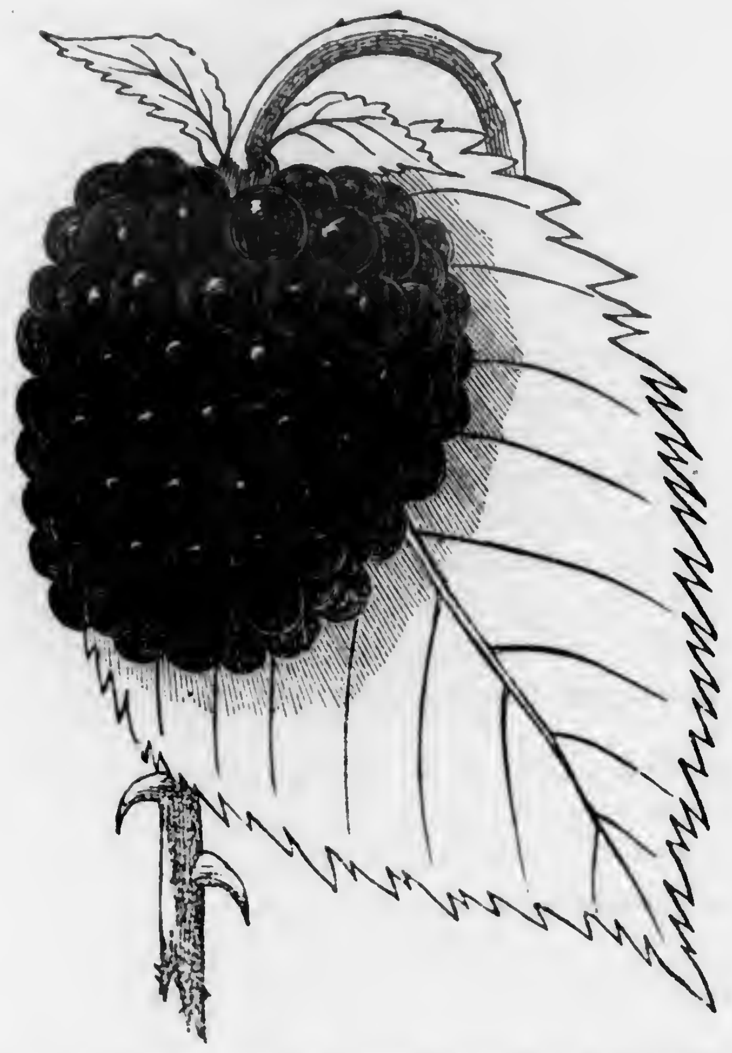
His faithful dog, now thin and weak with age,
Long his companion in life's pilgrimage,
Was lying at his feet, half sleeping, half awake,
Now peering with his eyes, then gave his ears a shake—
He wagged his tail, and licked the children's hands,
Looked in his master's face and asked for his commands.

The good old man had faith and peace of mind,
His wants had e'er been few, and of a simple kind;
He little knew of policy, and tact, of wealth, and pomp and pride,
But honesty and truth he lov'd, above all else beside—
With calm benignant smiles he viewed his daughter's sons,
And looking up to heaven he said, "God bless you, little ones."

## A SINGULAR DISCOVERY.

In 1852 a few grains of wheat were discovered in the tombs of some mummies found in the south of France, supposed to have been two thousand years old. These grains of Egyptian wheat were planted, and produced, to the surprise of every one, 1200 to 1! The government took the affair in hand, and consigned the management of it to the farmers of the government farm at Rambouillet. The result has been most astonishing. Each year the product has been magnified in such an immense proportion over the preceding year, that the Minister of Agriculture is now enabled to distribute over France a large quantity of this wheat to each of the departments gratuitously, with instructions from the government farm as to the best mode of cultivation. At a late meeting of the Academy of Sciences the Baron Menneville presented several stocks of this regenerated Egyptian wheat, which were six feet high, and bore each several fine ears.

A cubic foot of common arable land will hold 40 pounds of water.



THE LAWTON BLACKBERRY.—This variety is unique, and not as many suppose, "The New Rochelle Blackberry," improved by cultivation. The plants which abound in that neighborhood are no better than the wild varieties to be found in every part of the country.

Card for 1857.

Packages carefully prepared for safe transportation, will be sold at the following reduced rates:—Half a dozen, $2,00; one dozen, $3,00; two dozen, $5,00; fifty plants, $10,00; one hundred, $18,00. Descriptive circulars and full directions for planting and cultivation, will be furnished with each package. The money should accompany the order, with name and directions distinctly written.

Address— WILLIAM LAWTON,
54 Wall street, New York, or New Rochelle, N. Y.

N. B.—May be put out until 15th of May, and will fruit next year.

May—

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C. S. WAINWRIGHT'S FIRST PUBLIC SALE, OF THOROUGH-BRED, NORTH DEVON CATTLE. To be held at "The Meadows," on the 17th day of June, 1857.

The subscriber intends holding his first Public Auction of North Devon Cattle, on the above mentioned day, at his residence "The Meadows," 4 miles north of Rhinebeck Station, on the Hudson River R. R. The animals to be sold will number between 20 and 25 head, males and females, from calves to full grown; all of which have been either bred or imported by himself, and have perfect herd book pedigrees. As a lot, he believes he may say with truth, they are fully equal to any ever yet offered to the farmers of the U. S. Among the number will be the imported bull May Boy, (71), and the imported cows Nonpareil, (924), and Moss Rose, (904).

Catalogues, containing full pedigrees, and all necessary information, are now ready, and will be sent on application to all desiring them. The subscriber will be happy to have gentlemen visit his herd at any time.

All the sale will be *bona-fide*, and no animals on the catalogue will be disposed of until thr auction.

C. S. WAINWRIGHT,
May 2t. "The Meadows," near Rhinebeck, N. Y

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GREAT IMPROVEMENT IN RAILWAY THRESHING MACHINERY.—Our powers are of the most durable pattern, the platform is longer than any other and has a covering of inch boards to protect the lagging, when these wear out any one can replace them at a trifling expense. The band wheel will go on either side of the power; the cogs of the pinions are chilled which prevents their wearing, and the power is mounted on two wheels by which it may be easily moved.

Our Threshers have the most durable iron cylinders yet invented, the teeth have never been known to break out; the boxes have self-oiling cups which insures the Journal to be always lubricated without wasting oil, this prevents all heating and consequent wear of the boxes, and is an invaluable improvement in threshers.

The small wheels and cog gear of the power are oiled by a similar arrangement. Our shakers are driven by the main band, and require less than half the power used by the ordinary method. The shaker pulley will fit on the horse-power and may be used for driving any machinery requiring a slow motion. Our two horse power with a pair of light horses and three or four hands, is capable of threshing 175 bushels of wheat or double that amount of oats per day. We warrant our machines to thresh clean, not to crack the grain, to be durable, and owing to the diminished diameter of the cylinder and the improved method of driving the shaker, to require less power than any other machine. The complete two horse machine will consist of a double railway horse power, a 29 inch iron cylinder thresher, a shaker, 30 feet of 3½ inch India rubber belting, fixtures, for hulling clover seed, a pair of hooks to fasten the thresher to the floor, a pair of self-feeding oil cups for the power, a wrench, tin covers for the oil cups and an oil can. Price $140 in York. With the one horse machine will be sent a 24 inch thresher and all the fixtures enumerated as above. Price $120 in York.

Persons interested will please write early to W. W. Dingee & Co., York, Pa., and receive a circular.

May 6mo.

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NORTHERN MUSCADINE GRAPE ROOTS.—The subscribers have during the past twenty-five years, devoted much time to Grape Culture, both in setting all the new and hardy kinds, grown in this country, and in producing new varieties, and for the last 15 years the Early Muscadine has, either for making wine or as a table grape, yielded ten dollars profit to one from any other variety. It ripens in September, nearly a month earlier than the Isabella or Catawba, is perfectly hardy, successfully resisting the severity of our northern winters without any protection. The fruit is delicious, and has been pronounced superior to either the Isabella or Catawba.

As many grape roots have been imposed on the public under the above name, the subscriber will not be responsible for the genuineness of any not purchased from him or his legally appointed agents.

All orders addressed to Jesse Lewis & P. Stewart, with the money enclosed, shall receive prompt attention, and the roots forwarded by express according to directions, prices varying from one to five dollars per root, according to age and size.

JESSE LEWIS,
P. STEWART.

*New Lebanon, Shaker Village, Columbia Co., N. Y.*

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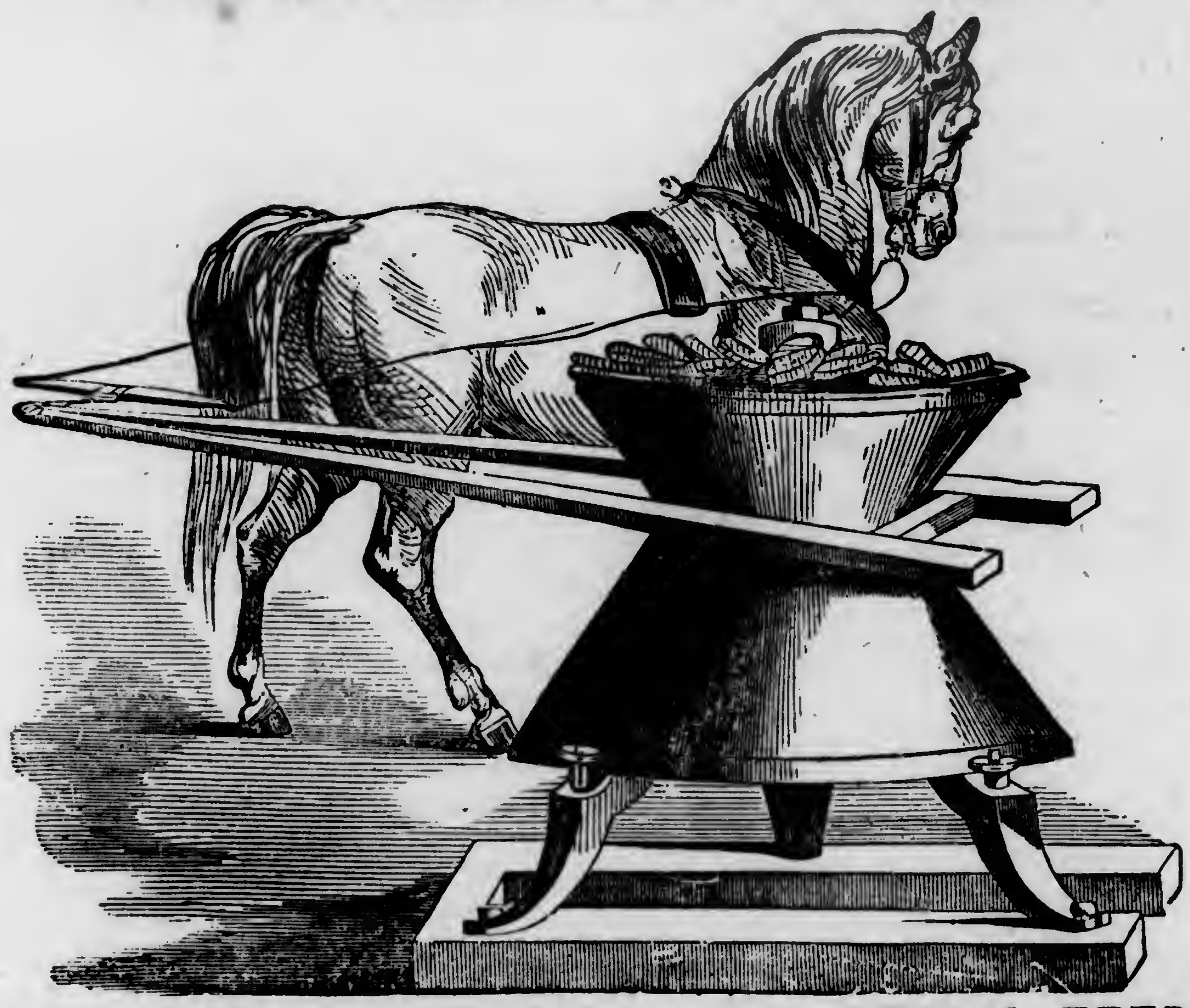
# GRANGER'S MAGIC
# CORN AND COB AND MEAL MILL.

PATENTED SEPT. 18, 1855.



## TO PLANTERS, FARMERS AND STOCK FEEDERS.

Your attention is called to this celebrated Mill, which has received the approbation of the public at the various State and County Fairs, 1856, and which has taken the first Premium over all other Mills at the following State and County Fairs:

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| Pennsylvania, | 1855 | Ohio, | 1856 | Louisiana, | 1856 |
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| Maryland, | 1856 | Michigan, | 1856 | Texas, | 1856 |
| New Jersey, | 1856 | Georgia, | 1856 | Massachusetts, | 1856 |
| Virginia, | 1856 | Alabama, | 1856 | New York, | 1856 |
| Pennsylvania, | 1856 | | | | |

The construction of this Mill, and which renders it superior to others, are these:—It grinds Corn and Cob finer, requires about one-half the amount of power of other Mills, and by the use of Friction Rollers at the base of the outer Shell, it prevents the fine teeth coming in contact, (which they do in other Mills); and after years of use, can be repaired at an expense of $3.00, making it equal to a new Mill. It is not injured if worked when empty. These facts and the superior Castings, make this Mill, beyond all doubt, superior to all others.

For further information, apply to the manufacturers,

**CRESSON, STUART & PETERSON,**
**Willow Street above Thirteenth, Philadelphia.**

**PASCHALL MORRIS & CO.,**
AGENTS FOR THE ABOVE MILL,
Jan. 1y **Corner of Seventh and Market Streets.**

**THE LAWTON BLACKBERRY.**—This variety is unique, and not as many suppose, "The New Rochelle Blackberry," improved by cultivation. The plants which abound in that neighborhood are no better than the wild varieties to be found in every part of the country.

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**GREAT IMPROVEMENT IN RAILWAY THRESHING MACHINERY.**—Our powers are of the most durable pattern, the platform is longer than any other and has a covering of inch boards to protect the lagging, when these wear out any one can replace them at a trifling expense. The band wheel will go on either side of the power; the cogs of the pinions are chilled which prevents their wearing, and the power is mounted on two wheels by which it may be easily moved.

Our Threshers have the most durable iron cylinders yet invented, the teeth have never been known to break out; the boxes have self-oiling cups which insures the Journal to be always lubricated without wasting oil, this prevents all heating and consequent wear of the boxes, and is an invaluable improvement in threshers.

The small wheels and cog gear of the power are oiled by a similar arrangement. Our shakers are driven by the main band, and require less than half the power used by the ordinary method. The shaker pulley will fit on the horse-power and may be used for driving any machinery requiring a slow motion. Our two horse power with a pair of light horses and three or four hands, is capable of threshing 175 bushels of wheat or double that amount of oats per day. We warrant our machines to thresh clean, not to crack the grain, to be durable, and owing to the diminished diameter of the cylinder and the improved method of driving the shaker, to require less power than any other machine. The complete two horse machine will consist of a double railway horse power, a 29 inch iron cylinder thresher, a shaker, 30 feet of 3½ inch India rubber belting, fixtures, for hulling clover seed, a pair of hooks to fasten the thresher to the floor, a pair of self-feeding oil cups for the power, a wrench, tin covers for the oil cups and an oil can. Price $140 in York. With the one horse machine will be sent a 24 inch thresher and all the fixtures enumerated as above. Price $120 in York.

Persons interested will please write early to W. W. Dingee & Co., York, Pa., and receive a circular.
May 6mo.

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**NORTHERN MUSCADINE GRAPE ROOTS.**—The subscribers have during the past twenty-five years, devoted much time to Grape Culture, both in setting all the new and hardy kinds, grown in this country, and in producing new varieties, and for the last 15 years the EARLY MUSCADINE has, either for making wine or as a table grape, yielded ten dollars profit to one from any other variety. It ripens in September, nearly a month earlier than the Isabella or Catawba, is perfectly hardy, successfully resisting the severity of our northern winters without any protection. The fruit is delicious, and has been pronounced superior to either the Isabella or Catawba.

As many grape roots have been imposed on the public under the above name, the subscriber will not be responsible for the genuineness of any not purchased from him or his legally appointed agents.

All orders addressed to Jesse Lewis & P. Stewart, with the money enclosed, shall receive prompt attention, and the roots forwarded by express according to directions, prices varying from one to five dollars per root, according to age and size.

JESSE LEWIS,
P. STEWART.
*New Lebanon, Shaker Village, Columbia Co., N. Y.*

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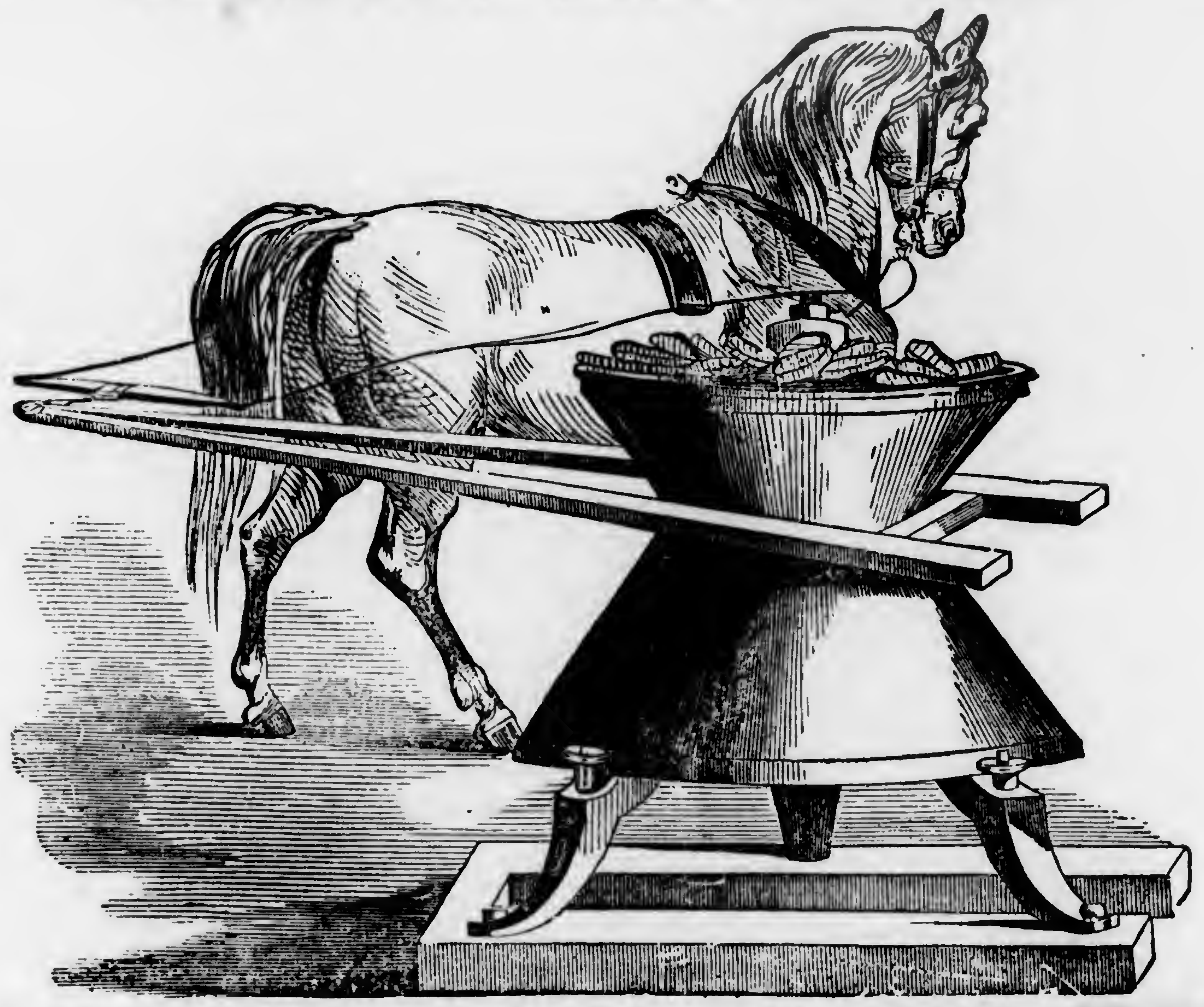
# GRANGER'S MAGIC
# CORN AND COB AND MEAL MILL.
## PATENTED SEPT. 18, 1855.



## TO PLANTERS, FARMERS AND STOCK FEEDERS.

Your attention is called to this celebrated Mill, which has received the approbation of the public at the various State and County Fairs, 1856, and which has taken the first Premium over all other Mills at the following State and County Fairs:

| | |
|---|---|
| PENNSYLVANIA, | 1855 |
| NEW YORK, | 1855 |
| MARYLAND, | 1856 |
| NEW JERSEY, | 1856 |
| VIRGINIA, | 1856 |
| PENNSYLVANIA, | 1856 |
| OHIO, | 1856 |
| ILLINOIS, | 1856 |
| MICHIGAN, | 1856 |
| GEORGIA, | 1856 |
| ALABAMA, | 1856 |
| LOUISIANA, | 1856 |
| S. CAROLINA, | 1856 |
| TEXAS, | 1856 |
| MASSACHUSETTS, | 1856 |
| NEW YORK, | 1856 |

The construction of this Mill, and which renders it superior to others, are these:—It grinds Corn and Cob finer, requires about one-half the amount of power of other Mills, and by the use of Friction Rollers at the base of the outer Shell, it prevents the fine teeth coming in contact, (which they do in other Mills); and after YEARS of use, can be repaired at an expense of $3.00, making it equal to a new Mill. It is not injured if worked when empty. These facts and the superior Castings, make this Mill, beyond all doubt, superior to all others.

For further information, apply to the manufacturers,

**CRESSON, STUART & PETERSON,**
**Willow Street above Thirteenth, Philadelphia.**

**PASCHALL MORRIS & CO.,**
AGENTS FOR THE ABOVE MILL,
Jan. 1y **Corner of Seventh and Market Streets.**

INTENTIONAL SECOND EXPOSURE

## SUPER-PHOSPHATE OF LIME.

The subscribers present to the notice of Farmers and others interested, the above article. The excellency of our preparation has been so well known for many years past, that we deem it unnecessary to say much in respect to its merits, but merely remark, that during a long series of years, its purity and value as a stimulant for the growing crop, and as a

**PERMANENT MANURE**

Have been thoroughly established,

*Our Super-Phosphate of Lime* is not changed in its character every season, but is what it purports to be, uniform in its chemical constituents, and is relied upon as the

BEST FERTILIZER IN USE FOR

**CORN, OATS, WHEAT, POTATOES, GRASS,**

and other crops requiring a vigorous and lasting manure.

Pamphlets describing it, and the mode of applying, can be had gratuitously at our stores, or by mail when desired.

CAUTION.—Be particular to observe that every barrel of our article has *our name and that of Potts & Klett* branded on the head. This *Caution* is rendered necessary, as there are so many articles of doubtful value sold under the name of *Super Phosphate of Lime*, as to mislead those who are unacquainted with the value of a

**GENUINE ARTICLE.**

**PRICE $45 PER 2000 LBS. (2¼ cents per lb.)**

A liberal deduction made to DEALERS.

Since last fall there has been imported but *one cargo* of the celebrated

**PACIFIC OCEAN GUANO,**

Which we offer for sale in small lots.

**FISH MANURE.**

A supply of this valuable article for sale.

**PRICE $30 PER 2000 LBS. (1½ cent. per lb.)**

**No. 1 Government Peruvian Guano**

For sale at the lowest rates.

*The leading Agricultural Journals and Newspapers are regularly filed at our office for the use of Farmers.*

**ALLEN & NEEDLES,**
**No. 23 S. Wharves, and 35 S. Water Street,**
First store above Chestnut St., Philada.

☞ *Goods can be loaded at either front of our Warehouses. Farmers are recommended to drive to Water Street and avoid the crowded wharf. Ample facilities are afforded in loading Wagons and attending to the Horses.* April—2 mos.

---

CHINESE SUGAR CANE AND SUGAR MAKING.—Now ready, and sent free of Postage for 25 cents, and for 3 cents additional, enough seed to plant two square rods.

C. M. SAXTON & CO.,
Agricultural Book Publishers,
140 Fulton street, New York.

---

GET THE BEST WEBSTER'S QUARTO DICTIONARY.—What more essential to every family, counting room, student and indeed every one who would know the right use of language—the meaning, orthography, and pronunciation of words, than a good English DICTIONARY?—of daily necessity and permanent value.

WEBSTER'S UNABRIDGED

is now the recognized Standard, "constantly cited and and relied on in our Courts of Justice, in our legislative bodies, and in public discussions, as entirely conclusive," says Hon. JOHN C. SPENCER.

*Can I make a better investment?*

"For copiousness, exactitude of definition and adaptness to the present state of science and literature, the most valuable works of the kind that I have ever seen in our language."—*President Wayland.*

Published by G. & C. MERRIAM, Springfield, Mass.—sold by all Booksellers. Also Webster's School Dictionaries.

---

C. M. SAXTON & CO., AGRICULTURAL BOOK PUBLISHERS, 140 Fulton street, New York, have just added to the number of books published exclusively by them the following valuable works:

| | |
|---|---|
| Waring's Elements of Agriculture, - - - | 75 |
| Dadds' Anatomy and Physiology of the Horse, plain plates, - - - - - - | $2 00 |
| Dadds' Anatomy and Physiology of the Horse, colored plates, - - - - - - - | 4 00 |
| Dadds' Modern Horse Doctor, - - - | 1 00 |
| Coles' American Veterinarian - - - | 50 |
| Coles' American Fruit Book - - - | 50 |
| Schenck's Gardener's Text Book, - - | 50 |
| Leuchars on Hot Houses, - - - | 1 25 |
| Breck's Book of Flowers, - - - - | 1 00 |
| Bridgeman's Young Gardener's Assistant, - | 1 50 |
| Bridgeman's Kitchen Gardener's Instructor, - | 50 |
| Bridgeman's Fruit Cultivator's Manual - | 50 |
| Bridgeman's Florist's Guide - - - | 50 |
| Stansbury's Chinese Sugar Cane and Sugar Making, - - - - - - - | 25 |
| Hyde's Chinese Sugar Cane, - - - - | 25 |
| The Cotton Planter's Manual - - - - | 1 00 |

Sent free of postage on receipt of price.

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BOOKS FOR THE SEASON. FRUITS AND FLOWERS.—Sent free of Postage on receipt of Price.

| | |
|---|---|
| Chorlton's Complete Grape Grower's Guide; For the Vineyard, Cold Grapery and Forcing House, - - - - - - - - | 60 |
| Allen on the Grape; a well known and reliable work, - - - - - - - - | $1 00 |
| Reemelin's Vine-dresser's Manual; for out-door Culture and Wine-making, - - | 50 |
| Persoz's New Process for the Culture of the Vine Paper. - - - - - | 25 |
| Elliott's American Fruit Grower's Guide; The latest work on Fruits, - - - - | 1 25 |
| Coles' American Fruit Book, - - - - | 50 |
| Eastwood's Cranberry Culture, - - - | 50 |
| Pardee on the Strawberry, - - - - | 60 |
| Buist's Kitchen Garden, - - - - | 75 |
| Buist's Flower Garden Directory, - - | 1 25 |
| Breck's Book of Flowers, - - - - | 1 00 |
| Bridgeman's Young Gardener's Assistant - | 1 50 |

Catalogue of all our Books sent free to any address.

C. M. SAXTON & CO.,
Agricultural Book Publishers,
140 Fulton street, New York.

# HAYMAKING AND HARVEST.

We are now prepared to supply from our own manufactory, the following desirable Implements for the Hay and Harvest Field:

## KETCHUM'S UNRIVALLED REAPER AND MOWER,

Greatly Improved, and warranted in every particular. Price of Reaper and Mower, $135; Mower alone, $115.

## PRATT'S PATENT SPRING TOOTH HORSE RAKE,

Beyond all doubt the best Rake ever invented.

## REVOLVING HORSE RAKES

Of the latest improved pattern and best material.

## SELF-ADJUSTING, UNLOADING FORKS.

We have greatly improved these, and are warranted in asserting that they are altogether superior to those made by us last season. All the above goods are from the STAR AGRICULTURAL WORKS, at Reading, which is the best evidence we can offer of their superiority. We challenge a comparison of the goods manufactured at the above works, with those made at any other establishment in the United States, believing them to stand unrivalled.

## CRADLES, SCYTHES, FORKS, &C.

In this department our stock cannot be excelled. The articles we keep are the very best which can be procured, and are confidently recommended. We ask an examinatiom of our stock, satisfied that purchasers cannot fail to be pleased.

BOAS, SPANGLER & CO.,
**NEW AGRICULTURAL WAREHOUSE,**
**No. 627 Market Street, below Seventh, Philadelphia.**
F. S. BOAS. A. M. SPANGLER. W. H. SPANGLER.

---

SUPERIOR CAST STEEL HAY AND MANURE FORKS—The very best in use, and in great variety.
BOAS, SPANGLER & CO.,
Apl— No. 627 Market st. below 7th, Philada.

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MAPES SUPER PHOSPHATE OF LIME.—Allen & Needle's do., Guano, Proudette, Super do.
BOAS, SPANGLER & CO.,
Apl— No. 627 Market st., Philada.

---

CUMMING'S CELEBRATED HAY, STRAW AND FODDER CUTTERS.—Unequalled by any in the Market. Also, Daniel's, Hovey's and others.
BOAS, SPANGLER & CO.,
Apl— No. 627 Market st., Philada.

---

FRESH GARDEN SEEDS.—Warranted genuine All new stock, and at fair prices.
BOAS, SPANGLER & CO.,
Apl No. 627 Market st., below 7th, Philada.

---

PLOWS, HARROWS AND CULTIVATORS—Of the most approved kinds, of our own manufacture.
BOAS, SPANGLER & CO.,
Apl— No. 627 Market st. below 7th, Philada.

---

FERTILIZERS FOR FIELD AND GARDEN.—1000 barrels Poudrette from the Lodi Manufacturing Co., New York. Having received the sole agency in Philadelphia, for this valuable fertilizer, we can supply orders at wholesale and retail. For corn in the hill, or for garden crops, it has been found very superior. Also for sale, Bone dust by the ton, superphosphate of Lime, Plaster, &c. PASCHALL MORRIS & CO.,
7th and Market, Philada.
Apl—

---

HORTICULTURAL TOOLS.—A large assortment of fine Horticultural Tools, consisting in part of superior Spading Forks, Hedge and Garden Shears, Border Knives, Scuffle Hoes, Pruning and Budding Knives, Bill Hooks, Grafting and Pruning Saws and Chisels, English Lawn Rakes, Garden Trowels, Grass Hooks, Lawn Scythes, Pruning Scissors, &c., at wholesale and retail.

PASCHALL MORRIS & CO.,
Implement and Seed Store, 7th and Market, Philada.
Apl—

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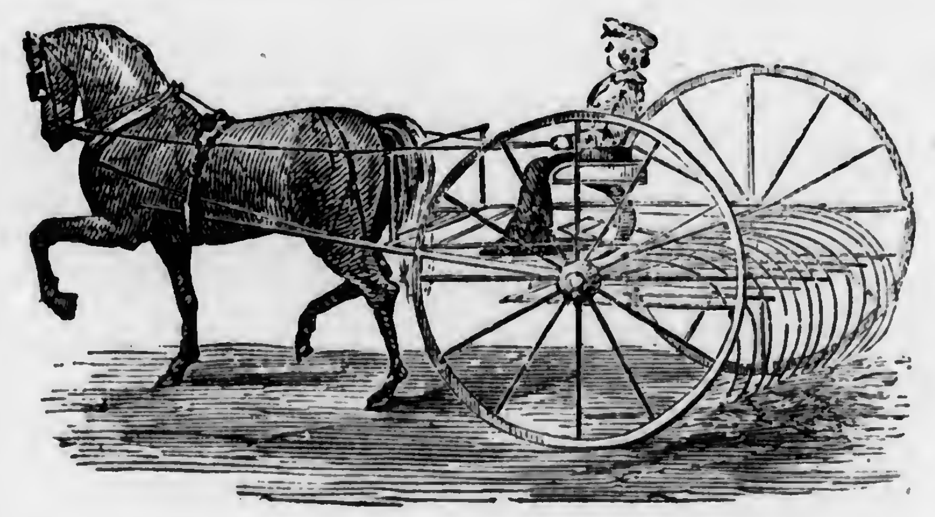
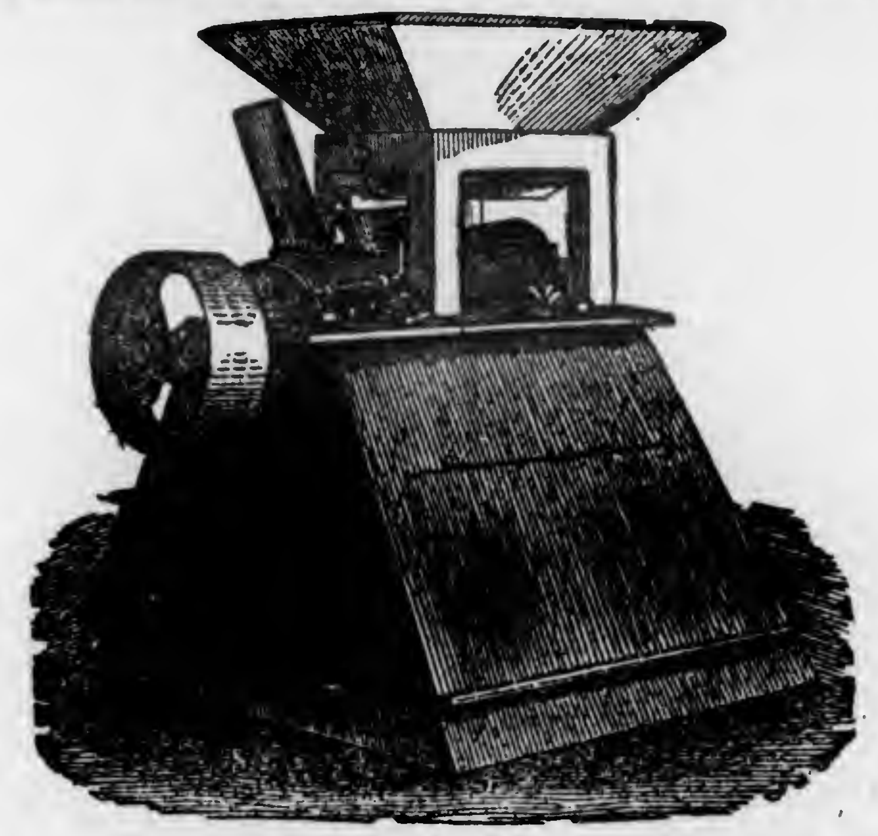


PRATT'S PATENT HORSE RAKE.—Although this implement has been but a short time in the hands of farmers, yet it has already attained a very high reputation. The ease with which it is operated, and its great efficiency, renders it at once an importan adjunct to the Mowing Machine. It is to be had a P. Morris & Co., of this City. May, 1t.

# COLEMAN'S FARM MILL



This is the most efficient, simple and durable FARM MILL now in use, and it precisely meets the wants of the farmer, as it is not only adapted to

**GRINDING CORN IN THE EAR,**

but will grind with rapidity

**SHELLED CORN, WHEAT, RYE OR OATS,**

*Fine or Coarse Meal, or Superfine Flour*, if required. It is easily attached to horse or any other power, and will *grind from EIGHT TO FIFTEEN BUSHELS PER HOUR*, according to power and speed. This Mill is constructed on an entire *new principle*, which has never been used, so that it can be run for years without any perceptible wear. In fact, it has proven itself to be the only efficient and DURABLE mill now in use. We invite farmers and dealers to call at our Seed and Agricultural Warehouse, **No. 29 Market street, Philadelphia,** and see one in operation. This Mill has received the following premiums:

1st Premium at the Delaware State Fair, 1856.
1st do. do. Chester Co., Pa., Fair, do.
1st do. do. Berks do. do. do.
1st do. do. York do. do. do.
1st do. do. Franklin do. do. do.
1st do. do. Salem do. do. do.
1st do. do. Cumberland do. do.

☞ All Mills sold are warranted to give satisfaction. We are manufacturing three different sizes. Prices—No. 1, for hand power, $10.00; No. 3, for two-horse power, $50.00; for steam or water power, No. 4, $60.00. A liberal discount made to dealers.

ROGERS & BOYER,
Dec—tf No. 29 Market St., Philadelphia.

ALLEN'S NEW AND IMPROVED COMBINED REAPER AND MOWER. We are now manufacturing this celebrated Reaper and Mower combined, which has no superior. Circulars forwarded by mail on application. ROGERS & BOYER,
Philadelphia.

MANNY'S COMBINED REAPER AND MOWER, with Wood's Improvement. We are sole agents for this very successful Harvester, and those in want of them had best send us their orders as soon as possible. ROGERS & BOYER,
No. 111 (formerly 29) Market st., Philada.

20,000 PEACH TREES, CHOICE VARIETIES.—10,000 Apple and Pear Trees. For sale by
ROGERS & BOYER, Philada.

IMPROVED FARM WAGON.—Farmers will take notice that the **PATENT DUMPING or TIPPING FARM WAGON**, alluded to in the January No. of the "Farm Journal," under the head of Farmers' Note Book, is manufactured and for sale by the Patentee, THOMAS CASTOR, Frankford, Pa. Also, Rights for States, Counties, Townships, or for a specified number of Wagons, may be obtained on reasonable terms. In consequence of the increased demand for these desirable Farm Wagon, the manufacturer has recently rebuilt his establishment on an enlarged plan, thereby enabling him to fill all orders with promptness and despatch. Prices range from $100 to $130 according to size. Feb—3t

# SICK AND AFFLICTED.

## DR. SWAYNE,

Believing it inconsistent with sound principles to recommen one medicine for every disease, has prepared those suitable to meet every case. Dr. Swayne's Compound Syrup of Wild Cherry, for all diseases of the Pulmonary Organs, Throat, Breast and Lungs, has performed many astonishing cures. Dr. Swayne's Sugar Coated Tar Pills cleanse the Bowels, restore the Liver and Bilious Secretions to a healthy condition. Dr. Swayne's Vermifuge for the destruction of Worms, Dyspepsia, &c Dr. Swayne's Catholicon, a valuable Bitters for Weakness, Dyspepsia, to build up the old, the feeble, the debilitated, the depressed in spirits, &c. Dr. Swayne's Fever and Ague Pills, sure cure, 50 cts. a box. Dr. Swayne's Panacea cures Scrofula; great Blood Purifier. Dr. Parris' Soothing Syrup for Children Teething, gives instant relief by rubbing on the gums. Dr. Swayne's Bowell Cordial, for all Bowell Complaints. Dr. Swayne's All-healing Ointment cures all Eruptions.

### Another Astonishing Cure,

*By Dr. SWAYNE'S Compound Syrup of Wild Cherry.*

POINT OF ROCKS, FREDERICK CO., MD.

DR. SWAYNE,—Dear Sir: Believing it a duty I owe to the public, and in justice to you, I have thought proper to make known one of the most extraordinary cures, in my own case, that has ever been truly recorded. In the month of October last I was afflicted with a severe gathering in my breast, which formed a large abscess, and also communicated to my Lungs and very much afflicted them, and discharged large quantities of corruption, external and internal. My breath could also pass through my Lungs and out through the cavity of my breast with apparent ease, attended with a violent cough, day and night, loss of appetite and extreme debility, so that my physicians thought my case entirely hopeless and beyond the power of medicine. I remained in this wretched condition for a long time, until I was wasted to a mere skeleton, and there seemed to be no hope for me; but having read in the public papers of the many wonderful cures performed by your COMPOUND SYRUP OF WILD CHERRY, I commenced its use, and to my great satisfaction and to my anxious family's, the abscess or opening in my lungs began to heal, and the cough subside, and on using ten bottles I was restored to perfect health. I feel very grateful, and firmly believe, that to your valuable medicine, under the blessings of Divine Providence, I am indebted for this great change, and I am happy to say that I am now enjoying as good health as I ever have.

Over five years have elapsed, and I still remain a perfectly hearty man at this date, June 2d, 1856 I have not had a day's sickness for the last eighteen months. Please accept my grateful acknowledgments. Yours, very respectfully,

THOMAS DIXON.

The subscriber is well acquainted with Thomas Dixon, and can testify that he has been afflicted as above represented. I regard his recovery almost as a miracle. He is a worthy member of our Society. JAMES R. BURBOROW,
Pastor of Berlin Circuit, Baltimore Conference.

The above invaluable medicines prepared only by
DR. H. SWAYNE & SON, *At their Labaratory*,
No. 4 North Seventh St., second door above Market, Philada.

Sold by Druggists and Storekeepers everywhere, of whom SWAYNE'S U. S. ALMANAC for 1857 can be had *gratis*.

Jan—1yr

## A. HARSHBARGER,

GROWER OF

# OSAGE ORANGE HEDGES,

## McVeytown,

MIFFLIN CO. PA.

**A large lot of Plants always on haud.**

A full description of these useful and beautiful hedges, with directions for planting, trimming, &c., will be cheerfully given by addressing as above. Jan—tf

KETCHUM'S MOWER AND REAPER.—We are now receiving orders for Ketchum's combined Reaper and Mower, of improved construction since last year. They have been fully tested for several years past, and are believed to be better adapted to the wants of the farmer than any other machine in the market. They are warranted to cut 10 to 15 acres of grass or grain in a day, as well as it can be done with a scythe or cradle.

PASCHALL MORRIS & CO,,
Apl— Implement and Seed Store, 7th and Market

---

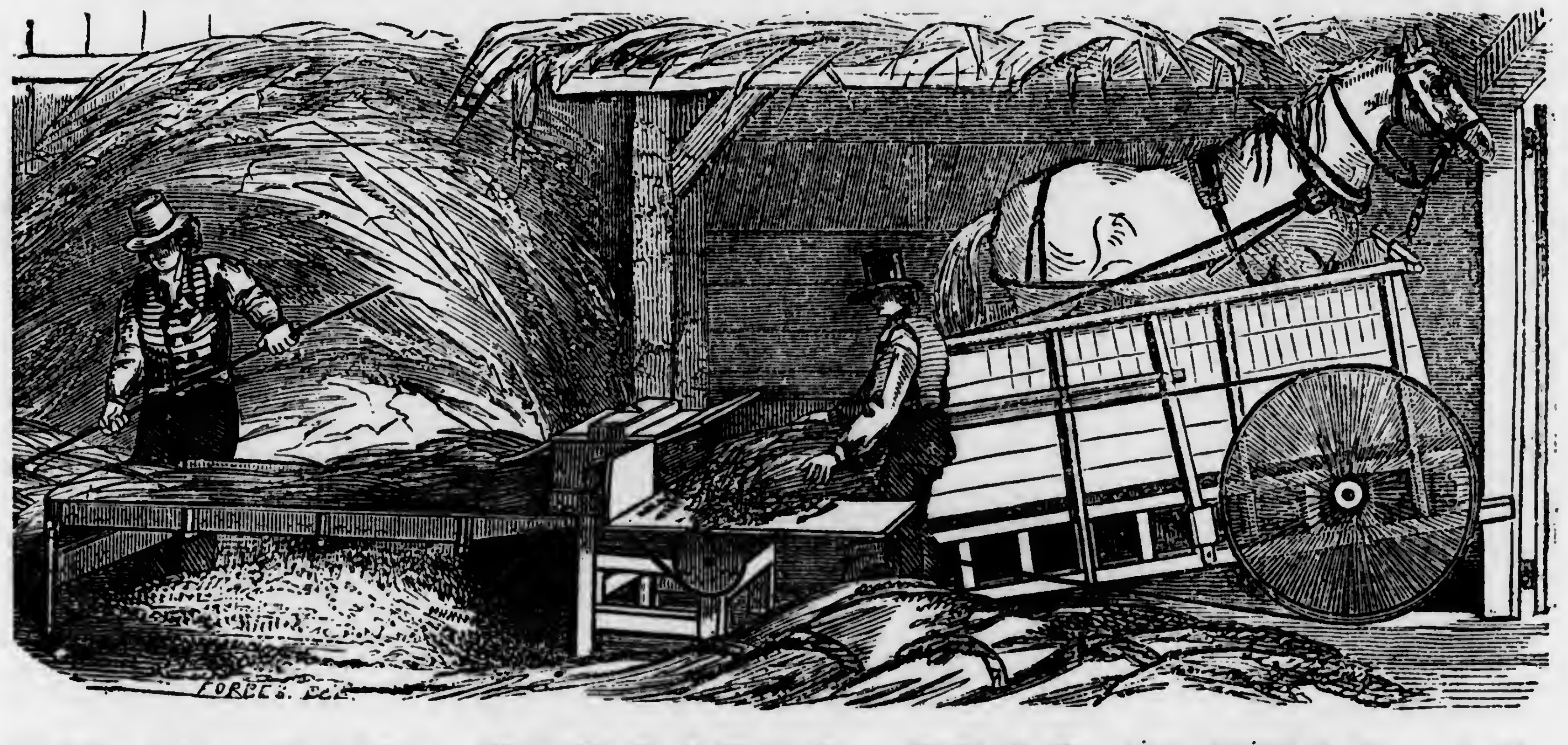
# FARMERS' MACHINE SHOP,

## NORRISTOWN, PA.

## GILBERT & RITTENHOUSE,

MANUFACTURERS OF WHEELER'S PATENT

## RAILWAY HORSE POWER AND OVERSHOT



# SEPARATING THRESHER, FEED CUTTER, &C.

The subscribers call the attention of Farmers and the public generally, to their superior Horse Power and Threshers, which they are constantly manufacturing, and making improvements, which makes it the best machine in use. For further particulars, address GILBERT & RITTENHOUSE, Norristown, Pa.

**GARDEN SEEDS! GARDEN SEEDS!**

A large and fresh supply of new and genuine Garden Seeds of every variety.

PASCHALL MORRIS & Co.,
N. E. cor. 7th & Market Sts., Phila.

**PLOWS, CULTIVATORS, KNOX'S HORSE HOES, &c.**

A large and varied assortment of Plows, Cultivators, Horse Hoes, and all other kinds of Agricultural Implements, constantly on hand, and for sale at the lowest cash prices.

PASCHALL MORRIS & Co.,
N. E. cor. 7th & Market Sts., Phila.

## A PERFUMED BREATH.

What lady or gentleman would remain under the curse of a disagreeable breath, when by using the "BALM OF A THOUSAND FLOWERS" as a dentifrice would not only render it sweet but leave the teeth white as alabaster? Many persons do not know their breath is bad, and the subject is so delicate their friends will never mention it. Pour a single drop of the "Balm" on your tooth-brush and wash the teeth night and morning. A fifty-cent bottle will last a year.

A BEAUTIFUL COMPLEXION may easily be acquired by using the "BALM OF A THOUSAND FLOWERS." It will remove tan, pimples, and freckles from the skin, leaving it of a soft and roseate hue. Wet a towel, pour on two or three drops, and wash the face night and morning.

SHAVING MADE EASY.—Wet your shaving-brush in either warm or cold water, pour on two or three drops of "BALM OF A THOUSAND FLOWERS," rub the beard well, and it will make a beautiful soft lather, much facilitating the operation of shaving. Price only fifty-cents.

Beware of counterfeits and imitations; none genuine, unless signed by Fetridge & Co., Proprietors, New York.

For sale by all druggists. W. P. FETRIDGE & CO
Dec—6t Franklin Square, New York.

THE MORGAN BLACK HAWK STALLIONS "BAY SHERMAN" and "BLACK HAWK ECLIPSE," will serve a limited number of mares, at the HOWARD HOUSE STABLES; near the five mile stone, on the Phila. and West Chester Plank Road. They were both sired by the Original Morgan Black Hawk, and are otherwise of the best Morgan and Messenger stock.

JOS. LIDDON PENNOCK,
May 2t. ABRAHAM L. PENNOCK, Jr.

TO FARMERS AND GARDENERS.—The Subscribers offer for sale 40,000 barrels of their **NEW & IMPROVED POUDRETTE,** manufactured from the night-soil of New York city, in lots to suit purchasers. This article (greatly improved within the last two years) has been in the market for eighteen years, and still defies competition, as a manure for Corn and Garden Vegetables, being *cheaper, more powerful than any other*, and at the same time *free from disagreeable odor*. Two barrels ($3 worth) will manure an acre of corn in the hill, will save two-thirds in labor, will cause it come up quicker, to grow faster, ripen earlier, and will bring a larger crop on poor ground than any other fertilizer, and is also a preventative of the cut worm; also it does not injure the seed to be put in contact with it.

The L. M. Co. point to their long-standing reputation, and the large capital ($100,000) invested in their business, as a guarantee that the article they make shall always be of such quality as to command a ready sale.

Price, delivered in the city free of charge and other expense,

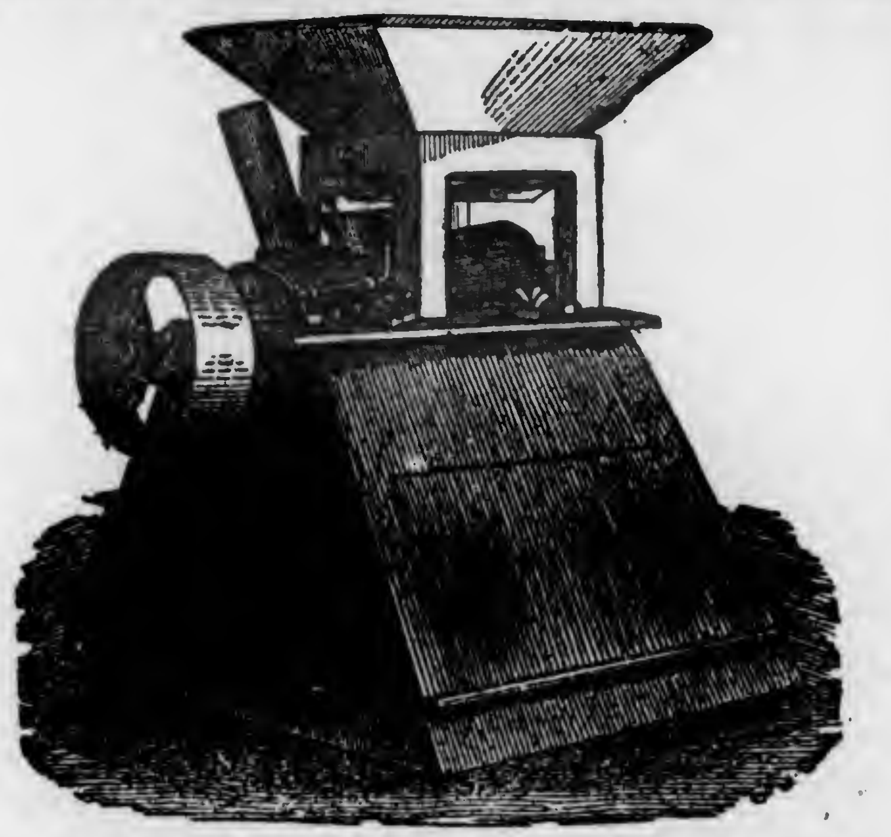
| | |
|---|---|
| One barrel, | $2 00 |
| Two barrels, | 3 50 |
| Five barrels, | 8 00 |
| Six barrels. | 9 50 |

And at the rate of $1 50 per barrel for any quantity over six barrels.

☞ A pamphlet, containing every information, will be sent (FREE) to any one applying for the same. Our address is—

THE LODI MANUFACTURING CO.,
Feb—4t OFFICE, 60 CORTLANDT ST., NEW YORK.

# COLEMAN'S FARM MILL



This is the most efficient, simple and durable FARM MILL now in use, and it precisely meets the wants of the farmer, as it is not only adapted to

**GRINDING CORN IN THE EAR,**

but will grind with rapidity

**SHELLED CORN, WHEAT, RYE OR OATS,**
*Fine or Coarse Meal, or Superfine Flour*, if required. It is easily attached to horse or any other power, and will *grind from EIGHT TO FIFTEEN BUSHELS PER HOUR*, according to power and speed. This Mill is constructed on an entire *new principle*, which has never been used, so that it can be run for years without any perceptible wear. In fact, it has proven itself to be the only efficient and DURABLE mill now in use. We invite farmers and dealers to call at our Seed and Agricultural Warehouse, **No. 29 Market street, Philadelphia,** and see one in operation. This Mill has received the following premiums:

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1st do. do. Berks do. do. do.
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☞ All Mills sold are warranted to give satisfaction. We are manufacturing three different sizes. Prices—No. 1, for hand power, $10,00; No. 3, for two-horse power, $50.00; for steam or water power, No. 4, $60.00. A liberal discount made to dealers.

ROGERS & BOYER,
Dec—tf No. 29 Market St., Philadelphia.

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ALLEN'S NEW AND IMPROVED COMBINED REAPER AND MOWER. We are now manufacturing this celebrated Reaper and Mower combined, which has no superior. Circulars forwarded by mail on application. ROGERS & BOYER,
Philadelphia.

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MANNY'S COMBINED REAPER AND MOWER, with Wood's Improvement. We are sole agents for this very successful Harvester, and those in want of them had best send us their orders as soon as possible. ROGERS & BOYER,
No. 111 (formerly 29) Market st., Philada.

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ROGERS & BOYER, Philada.

---

IMPROVED FARM WAGON.—Farmers will take notice that the **PATENT DUMPING or TIPPING FARM WAGON**, alluded to in the January No. of the "Farm Journal," under the head of Farmers' Note Book, is manufactured and for sale by the Patentee, THOMAS CASTOR, Frankford, Pa. Also, Rights for States, Counties, Townships, or for a specified number of Wagons, may be obtained on reasonable terms. In consequence of the increased demand for these desirable Farm Wagon, the manufacturer has recently rebuilt his establishment on an enlarged plan, thereby enabling him to fill all orders with promptness and despatch. Prices range rom $100 to $130 according to size. Feb—3t

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Believing it inconsistent with sound principles to recommen one medicine for every disease, has prepared those suitable to meet every case. Dr. Swayne's Compound Syrup of Wild Cherry, for all diseases of the Pulmonary Organs, Throat, Breast and Lungs, has performed many astonishing cures. Dr. Swayne's Sugar Coated Tar Pills cleanse the Bowels, restore the Liver and Bilious Secretions to a healthy condition. Dr. Swayne's Vermifuge for the destruction of Worms, Dyspepsia, &c Dr. Swayne's Catholicon, a valuable Bitters for Weakness, Dyspepsia, to build up the old, the feeble, the debilitated, the depressed in spirits, &c. Dr. Swayne's Fever and Ague Pills, sure cure, 50 cts. a box. Dr. Swayne's Panacea cures Scrofula; great Blood Purifier. Dr. Parris' Soothing Syrup for Children Teething, gives instant relief by rubbing on the gums. Dr. Swayne's Bowell Cordial, for all Bowell Complaints. Dr. Swayne's All-healing Ointment cures all Eruptions.

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DR. SWAYNE,—Dear Sir: Believing it a duty I owe to the public, and in justice to you, I have thought proper to make known one of the most extraordinary cures, in my own case, that has ever been truly recorded. In the month of October last I was afflicted with a severe gathering in my breast, which formed a large abscess, and also communicated to my Lungs and very much afflicted them, and discharged large quantities of corruption, external and internal. My breath could also pass through my Lungs and out through the cavity of my breast with apparent ease, attended with a violent cough, day and night, loss of appetite and extreme debility, so that my physicians thought my case entirely hopeless and beyond the power of medicine. I remained in this wretched condition for a long time, until I was wasted to a mere skeleton, and there seemed to be no hope for me; but having read in the public papers of the many wonderful cures performed by your COMPOUND SYRUP OF WILD CHERRY, I commenced its use, and to my great satisfaction and to my anxious family's, the abscess or opening in my lungs began to heal, and the cough subside, and on using ten bottles I was restored to perfect health. I feel very grateful, and firmly believe, that to your valuable medicine, under the blessings of Divine Providence, I am indebted for this great change, and I am happy to say that I am now enjoying as good health as I ever have.

Over five years have elapsed, and I still remain a perfectly hearty man at this date, June 2d, 1856 I have not had a day's sickness for the last eighteen months. Please accept my grateful acknowledgments. Yours, very respectfully,

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The subscriber is well acquainted with Thomas Dixon, and can testify that he has been afflicted as above represented. I regard his recovery almost as a miracle. He is a worthy member of our Society. JAMES R. BURBOROW,
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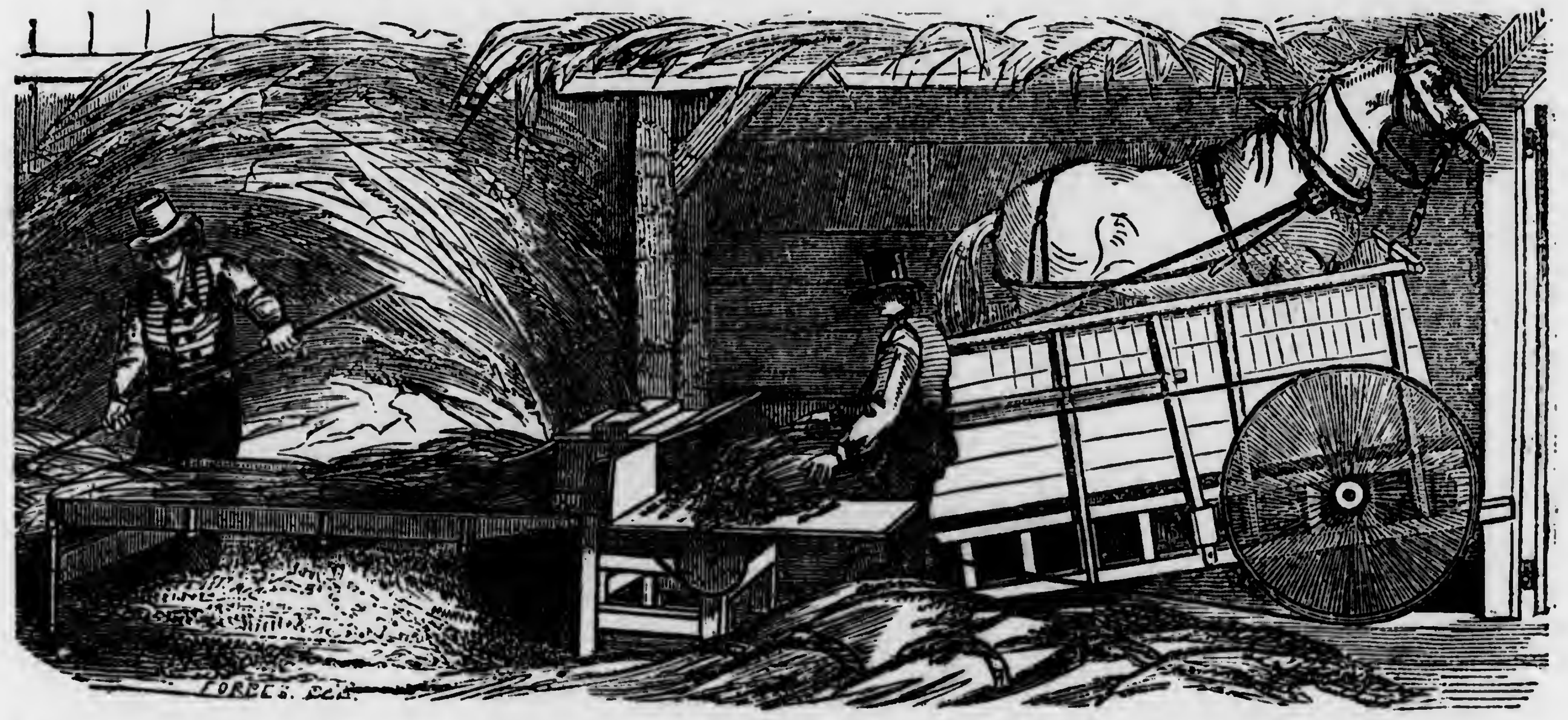

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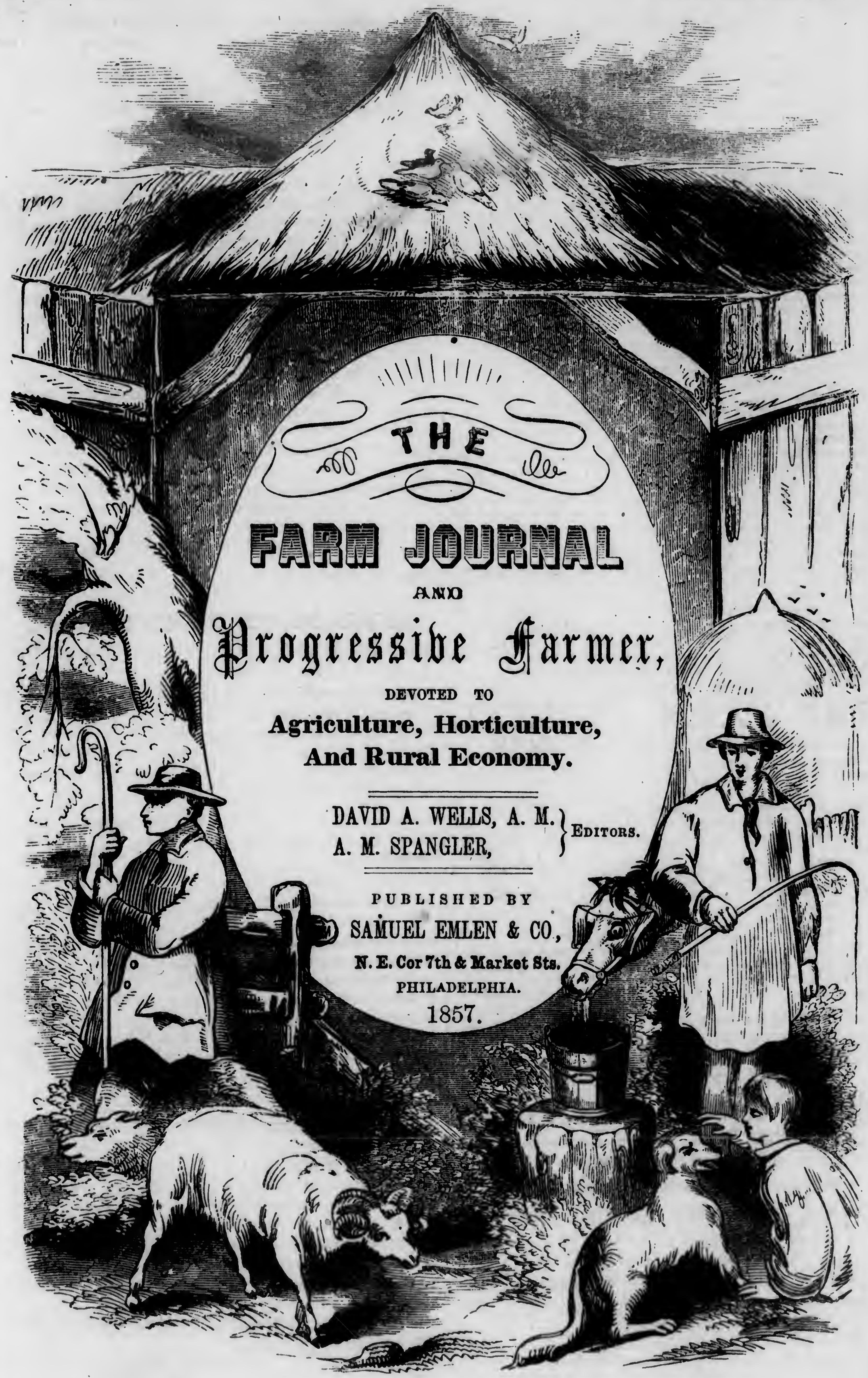

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And Rural Economy.

DAVID A. WELLS, A. M. } EDITORS.
A. M. SPANGLER, }

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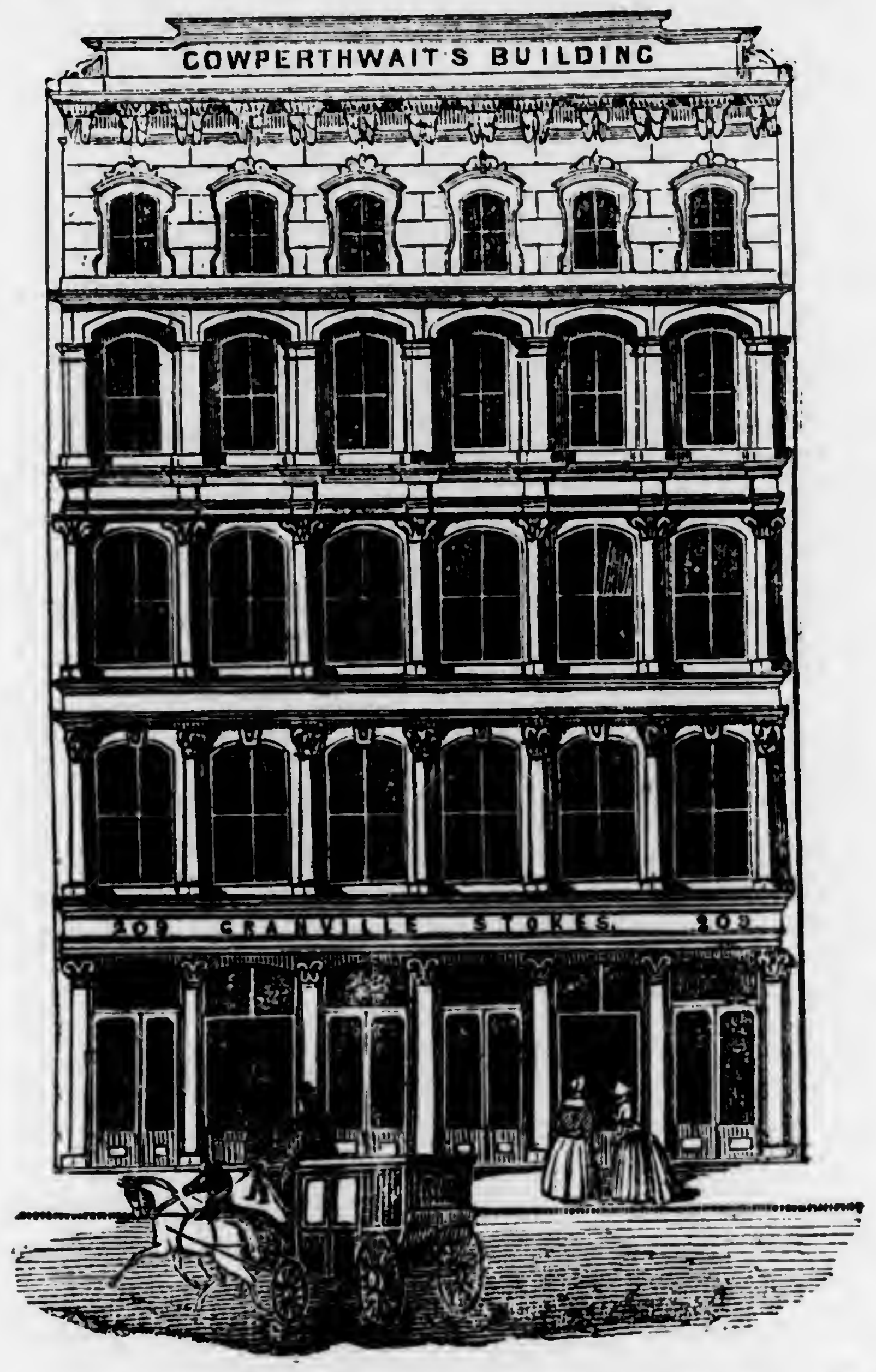

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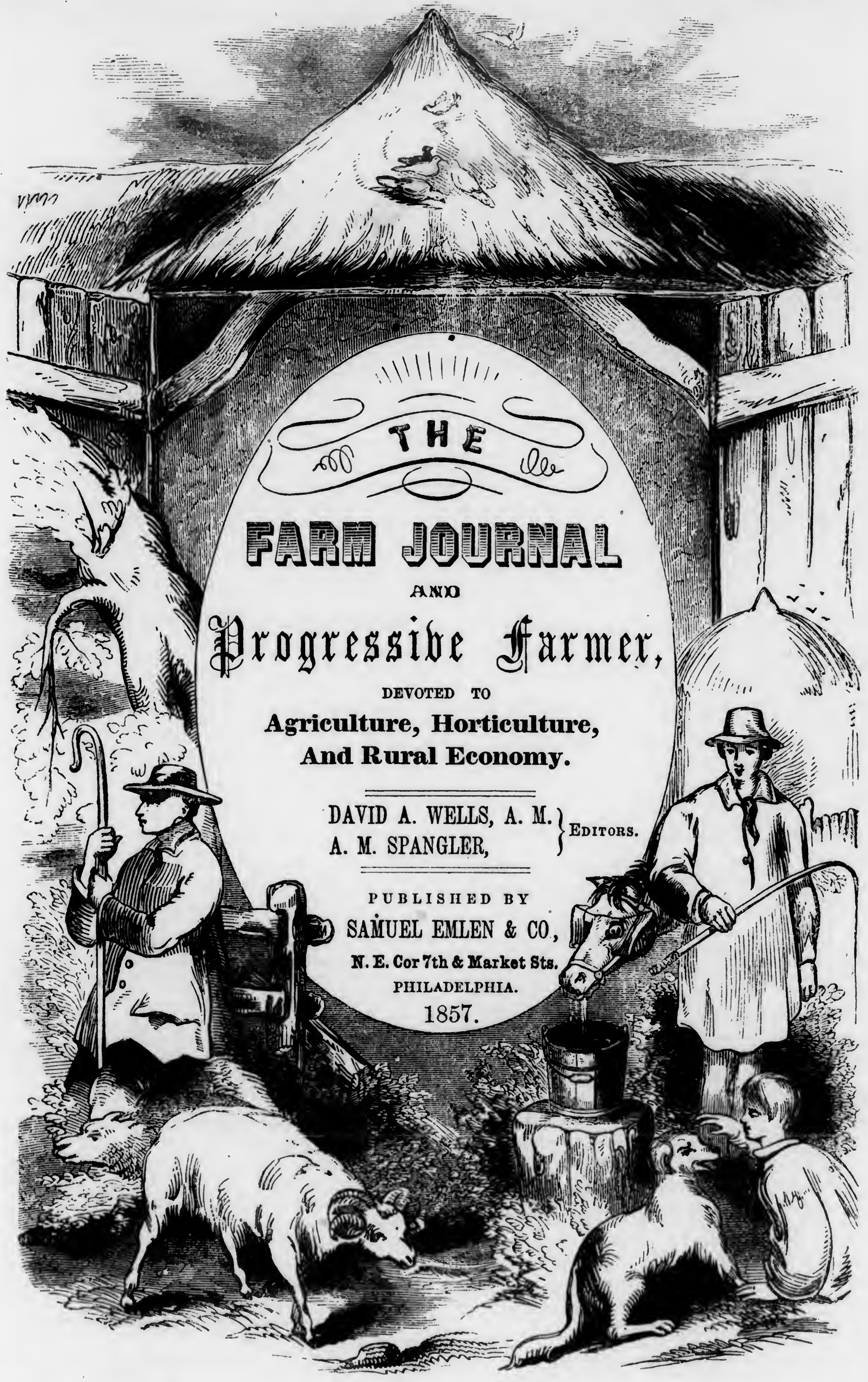

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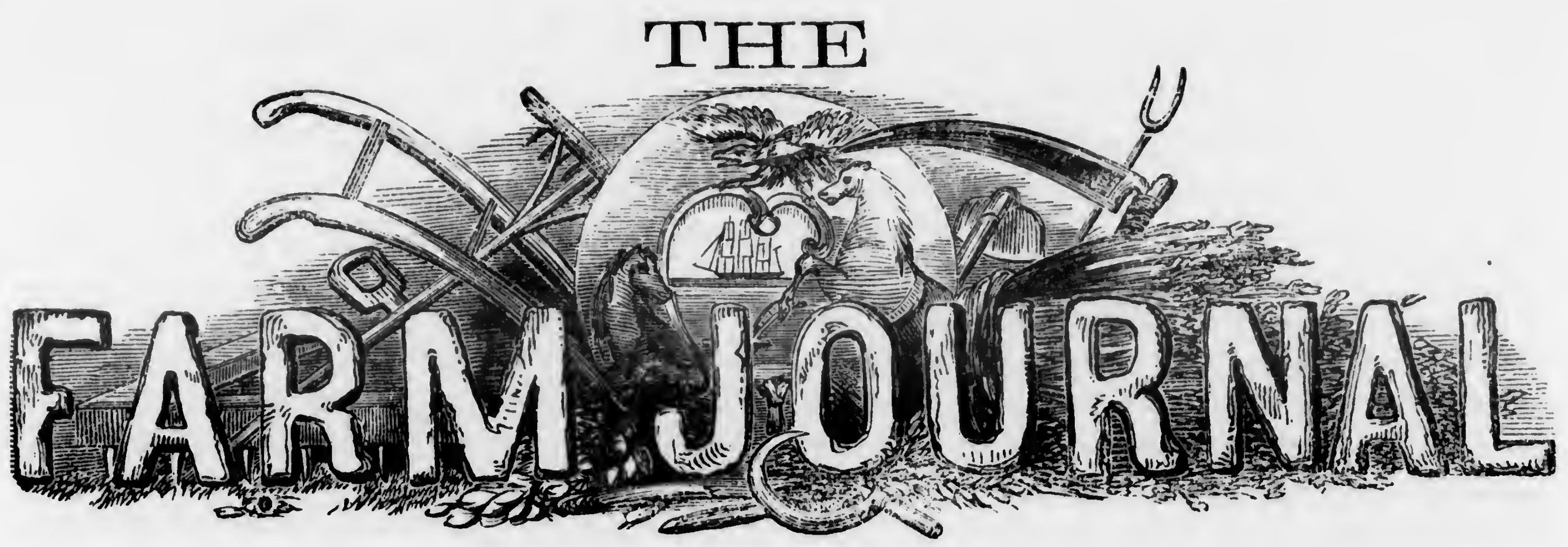

# THE FARM JOURNAL

VOL. VII. PHILADELPHIA, JUNE, 1857. No. 6.

For the Farm Journal.

### No. 3.

## ON THE DISEASES OF PLANTS.

BY HARLAND COULTAS.

*Unfruitfulness.*—(STERILITAS.) The unfruitfulness of trees arises from very different causes. Young sound trees remain sometimes unfruitful through the richness of the soil in which they are planted, which produces an excess of sap, and a preponderance of their vegetative over their reproductive forces. The remedy in such cases is simple enough. Transplant the tree to a poorer soil, cut off the younger shoots, or bleed in the way already mentioned. Dwarf trees, through a provident pruning and bending of their branches, can be forced to put forth flower-buds instead of leaf-buds.

But unfruitfulness also arises in young and fruitful trees, when warm weather so accelerates the growth of the secondary shoots, that the sap is withdrawn from the primary, and the tree for this reason is not able to form its fruit buds. Metzger, a celebrated German botanist, Counsellor for the government, has written a very interesting treatise on the secondary shoots of trees, in the transactions of the Association for the promotion of Horticulture in the Prussian States. He advises to check the growth of the secondary shoots, in order the first to perfect. Immediately that the frost has penetrated the soil, the roots of young fruit-bearing trees must be covered with manure, or with leaves, and this covering must lie undisturbed in the spring till the primary shoots have developed themselves. The effect of the covering is to continue the frost longer in the ground, and retard the development of the root fibres, whereby the growth of the secondary shoots is stopped.

In order to increase the fruitfulness of old trees, we advise the cutting off and shortening of the secondary shoots, but at the same time we would remark, that such abbreviation is injurious to young, vigorous trees, because the forming flower-buds are by this process changed to ordinary leaf-buds, and sterility is thus produced.

Trees which are unfruitful for want of nourishment, must be covered with dung in autumn, and freed from the mosses and lichens adhering to their bark.

Unfruitfulness may also originate in the course of the year, through accidental causes. The stamens and pistils may be killed by frosts, or strong rains may prevent the rupture of the anthers and the discharge of the pollen at the time that the pistil is ready for its reception; or the pistil may be rendered incapable of conception through the rains washing away the humid secretion on its summit or stigma, or insects may injure these parts, and thus prevent the exercise of their functions. Against the injurious effects of rains there is no remedy, but the effects of frosts may be prevented by covering young trees with straw and last matting.

*Premature defoliation.*—(TABES.) This disease, the result of unsuitable climate, station, soil, dryness, frost, or other debilitating causes, manifests itself in trees, by an arrest of their growth, a change in the color of their foliage, and its premature fall. If the cause of the disease is known to be the result of an improper station or soil, we can, by transplanting the tree to a more suitable location, effect a cure; if, on the contrary, the disease is produced by powerful frosts or uninterrupted dryness, it is incurable.

The premature defoliation which trees, shrubs, and herbaceous plants suffer at unusual times, rests on similar causes, and distinguishes itself only through the quicker course of the disease; it shows itself likewise through the debility of the vegetation, which ultimately quite ceases. The leaves become yellow, and fall off generally at once, so that the plant in a short time is completely defoliated, although it should be yet vegetating. When we observe this evil, help is generally too late, and therefore useless.

*Apparent death.*—(LETHARGIA.) We mean, by this, the unusual non-appearance of growth in trees, as

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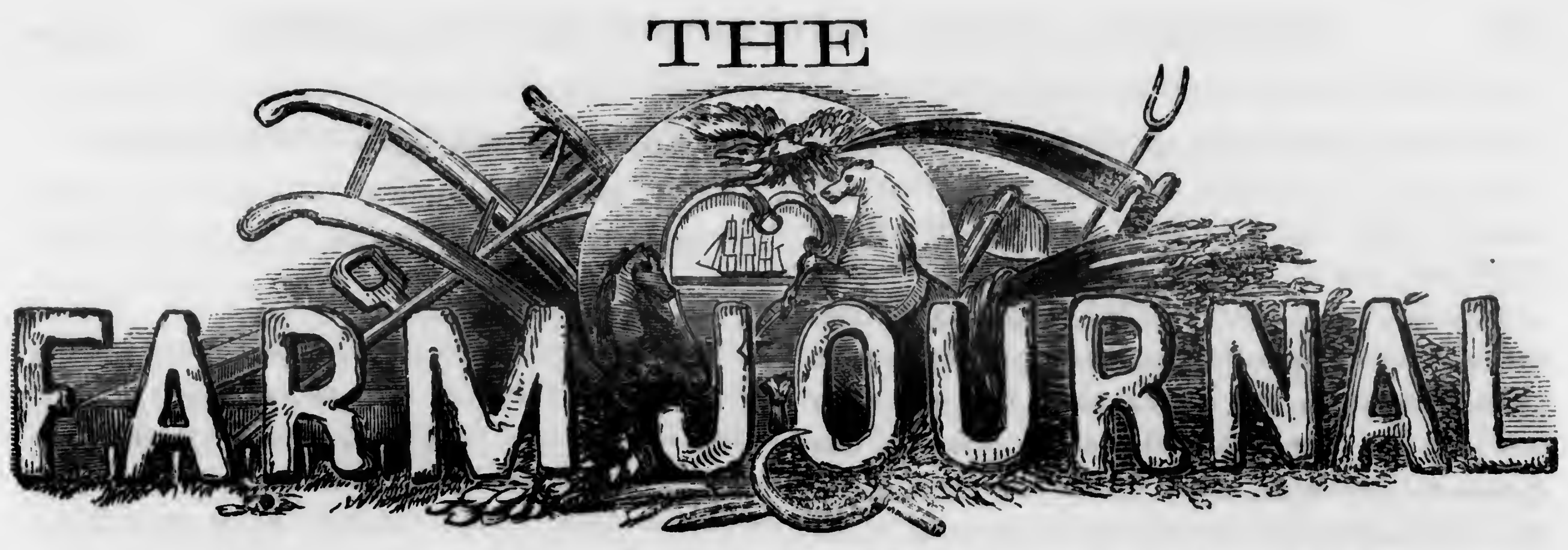

# THE FARM JOURNAL

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For the Farm Journal.

### No. 3.

## ON THE DISEASES OF PLANTS.

BY HARLAND COULTAS.

*Unfruitfulness.*—(STERILITAS.) The unfruitfulness of trees arises from very different causes. Young sound trees remain sometimes unfruitful through the richness of the soil in which they are planted, which produces an excess of sap, and a preponderance of their vegetative over their reproductive forces. The remedy in such cases is simple enough. Transplant the tree to a poorer soil, cut off the younger shoots, or bleed in the way already mentioned. Dwarf trees, through a provident pruning and bending of their branches, can be forced to put forth flower-buds instead of leaf-buds.

But unfruitfulness also arises in young and fruitful trees, when warm weather so accelerates the growth of the secondary shoots, that the sap is withdrawn from the primary, and the tree for this reason is not able to form its fruit buds. Metzger, a celebrated German botanist, Counsellor for the government, has written a very interesting treatise on the secondary shoots of trees, in the transactions of the Association for the promotion of Horticulture in the Prussian States. He advises to check the growth of the secondary shoots, in order the first to perfect. Immediately that the frost has penetrated the soil, the roots of young fruit-bearing trees must be covered with manure, or with leaves, and this covering must lie undisturbed in the spring till the primary shoots have developed themselves. The effect of the covering is to continue the frost longer in the ground, and retard the development of the root fibres, whereby the growth of the secondary shoots is stopped.

In order to increase the fruitfulness of old trees, we advise the cutting off and shortening of the secondary shoots, but at the same time we would remark, that such abbreviation is injurious to young, vigorous trees, because the forming flower-buds are by this process changed to ordinary leaf-buds, and sterility is thus produced.

Trees which are unfruitful for want of nourishment, must be covered with dung in autumn, and freed from the mosses and lichens adhering to their bark.

Unfruitfulness may also originate in the course of the year, through accidental causes. The stamens and pistils may be killed by frosts, or strong rains may prevent the rupture of the anthers and the discharge of the pollen at the time that the pistil is ready for its reception; or the pistil may be rendered incapable of conception through the rains washing away the humid secretion on its summit or stigma, or insects may injure these parts, and thus prevent the exercise of their functions. Against the injurious effects of rains there is no remedy, but the effects of frosts may be prevented by covering young trees with straw and last matting.

*Premature defoliation.*—(TABES.) This disease, the result of unsuitable climate, station, soil, dryness, frost, or other debilitating causes, manifests itself in trees, by an arrest of their growth, a change in the color of their foliage, and its premature fall. If the cause of the disease is known to be the result of an improper station or soil, we can, by transplanting the tree to a more suitable location, effect a cure; if, on the contrary, the disease is produced by powerful frosts or uninterrupted dryness, it is incurable.

The premature defoliation which trees, shrubs, and herbaceous plants suffer at unusual times, rests on similar causes, and distinguishes itself only through the quicker course of the disease; it shows itself likewise through the debility of the vegetation, which ultimately quite ceases. The leaves become yellow, and fall off generally at once, so that the plant in a short time is completely defoliated, although it should be yet vegetating. When we observe this evil, help is generally too late, and therefore useless.

*Apparent death.*—(LETHARGIA.) We mean, by this, the unusual non-appearance of growth in trees, as

INTENTIONAL SECOND EXPOSURE

also in tubers and bulbs. Newly transplanted trees, particularly those which are planted in spring, and planted bulbs often show no shoots, although all their parts are in a healthy condition. A soil, bad, and unsuited to the nature of the plant, unpropitious weather, but especially dry, and with respect to bulbs and tubers, the circumstance that the same has been too deeply planted, are the causes of this apparent lifelessness, from which the trees easily recover at the time of the midsummer growth, if the soil is not too bad, and the dryness not too long continued. The tubers and bulbs must, however, be taken up from the ground in autumn, and if necessary, be planted in a soil more suited to their nature, and be set nearer the surface.

*Diseased or imperfectly formed fruit.*—(Carpomania.) Young as well as old trees often bear for a succession of years, small and tasteless fruits, gradually become more sickly and exhausted, and either soon die, or at least, for several years, remain unfruitful.

The causes which produce this diseased condition of things, are various, and often arise from totally different circumstances. In old trees it is generally the want of sap, which may be occasioned by the exhaustion of the soil; but most frequently it originates in the circumstance, that, on account of the great age of the tree, the vessels have become too strongly lignified, so that there is an imperfect circulation of the sap through them, and a want of that flow which is necessary to the formation of healthy fruit. The tree, in fact, is in the same situation as one which we have stripped of its vernal foliage. It puts forth new leaves, a stronger bloom, and bears a greater quantity of fruit, but far less perfectly formed, till its vegetative powers become finally exhausted.

If the tree is so old, that we believe its vessels to be completely lignified, then is it advisable to cut it down. But if we consider the soil, then the earth must be carefully removed from the roots, which must be covered up with a more nourishing soil; and a bed of fermenting manure deposited at the of foot the tree in autumn, must, in early spring, be dug into the ground, so as to be brought in contact with its sap roots.

An excess of sap is frequently the cause of this disease in young trees, especially if they have been transplanted from a barren to a fertile soil, which produces in them exhaustion, not less than in old. The opposite treatment, with reference to soil and nourishment, is in this instance to be pursued, as also bleeding.

(*To be continued.*)

## VALUE OF ASHES AS A FERTILIZER.

"One who holds the plow," in Long Island, writes very sensibly upon this subject, in the *Country Gentleman* of March 26th.

Messrs. Editors—A correspondent of the *Country Gentleman* of February 5th, makes inquiry about ashes, leached and unleached, and what soils and crops are most benefited by them; and as he has alluded to Long Island farmers (which to me has a sound of home,) I have thought to throw out a few facts upon the subject, believing with your correspondent, Mr. Johnson, of Geneva, that however beautiful and true a theory may be, yet that the *facts* as developed by practice, are what farmers want to guide them, if *profitable* farming is the thing sought.

To commence our subject, which is the effect of ashes, leached and unleached, upon soils and crops, I shall not attempt to cover all the ground laid down by your correspondent, but simply "state what I know, and testify to what I have seen."

In this section, the eastern part of Long Island, leached ashes have been used to a greater or less extent, by the farmers for at least half a century.—The soil varies from a heavy loam, with no perceptible admixture of sand or gravel, to a light loam, in which sand or gravel predominates, but for the most part is what may be called *a good loamy soil*, adapted to the cultivation of all the grains, roots and grasses.

This land, as I have said, has been ashed more or less for half a century, according as the opinions, and I may perhaps with truth add, the enterprise of its owners prompted. The ashes used have been mostly leached ones, brought by vessels from abroad, at first at a low rate, but as the effects of their use became more apparent and the demand increased, so their price was increased, and now range from $4 to $5 ⅌ ton of thirty-five struck bushels.

(The unleached ashes that have been used during this time, have been limited to a small quantity gathered from the inhabitants of a neighboring village, and altogether too insignificant in quantity to be worthy of particular notice.)

These ashes before mentioned, the leached, have been brought here from abroad, and together with what few were made by the farmers at home, have been applied to almost every kind of soil and crop here cultivated; but as a general rule applied only once in the rotation. This rotation is generally as follows: First, corn, planted on an inverted sod.—Second, oats. Third, wheat or barley, which is succeeded and remains in grass from three to four years, when corn again follows.

The crop to which it is generally applied, is either to corn by spreading it on the ground after it is

plowed, either before or after planting—(the better way is probably immediately after plowing, before the harrowing or dragging has been done,)—or to wheat, and then harrow it in with the seed.

Once in the rotation is as often as is advisable, and three tons, of thirty-five bushel, per acre as much as would be needful to apply, as it is lasting in its effects, and if applied to the corn crop in the rotation mentioned, it will have a marked effect upon all the following crops. Upon lands that have never been ashed, (unless they are sandy soils, of the effect upon which I know but little,) they have had for the first one or two applications a wonderful effect, particularly on grass, wheat and corn—often more than doubling the quantity of the former; and instead of causing the small grains, as wheat, &c., to lodge, as is frequently the case by a liberal application of artificial manures, it has a contrary effect, making a stiff straw, and on this account are useful to apply to crops likely to fall, from the use of forcing manures.

The manner of applying is universally by spreading, as evenly as possible, with a shovel from a cart or wagon, and to do this well requires less theory than practice.

As to the comparative value of leached and unleached ashes I am unable to say, and would suggest to your correspondent that he makes a careful experiment, say on wheat, and inform your readers of the result.

In conclusion, I should perhaps say a word as to the ultimate effect of ashes upon the mechanical condition of soils and crops; and as your correspondent has hinted at having heard of lands becoming partially sterile in consequence of too free and constant a use of this manure, I will say that I know of a lot near by me, that has, I should judge from its appearance and what others say about it, been ashed almost to death; at any rate it is now "hors du combat," and for a number of years has had the simple treatment sometimes used for old horses—that of turning out to grass, whereby to recuperate perchance its weakened energies, and although it may now be convalescent, yet still will evidently require the sunshine of many a summer, the disintegrating and renewing effects of frost and snow, and the careful dietic treatment of the skillful cultivator, ere, it will again reach the height it once attained. In fact, it would seem to be a field on which the prescription of mere theorists might be practiced without any harm whatever. The cause of this I cannot explain; but it is a fact that soils which have been long and freely ashed, seem to have undergone a change in their mechanical condition, and seem more ashlike, and crumble down after the plow, giving unmistakable evidence to a careful observer of having had too much of a good thing.

Corn, planted on land highly ashed for a number of succeeding years, will perhaps grow well and look finely until the month of August, when all at once the stalks will begin to sprowl in every direction, and but half a crop, or barely that, will be the result.

From all this, it will be seen that while leached ashes produce a very marked effect on loamy land to which they have never been applied, yet the effect for good is always less apparent after each application, and should not be followed too long. My own opinion is that two or three applications of say three tons each of unleached ashes, applied once in the rotation as before stated, is enough for at least quite a number of years—perhaps for a man's lifetime.

## UNITED STATES AGRICULTURAL SOCIETY.

**Great National Trial of Machinery and Implements of every description pertaining to Agriculture and Household Manufactures, at the FIFTH ANNUAL FAIR, to be held at Louisville, Ky., during the fall of 1857.**

The undersigned, a Committee of the United States Agricultural Society, appointed at the fifth annual meeting held at the Smithsonian Institution, in the city of Washington, on the 14th day of January, 1857, "to make all the necessary arrangements for a *National trial in the field of Agricultural Implements and Machinery*," respectfully invite the inventors and manufacturers of all such articles, both in the United States and foreign countries, to participate in a public trial to be made at the society's annual exhibition, to be held at Louisville, Kentucky, during the fall of 1857.

This new arrangement for the exhibition of agricultural implements and machinery of all kinds in actual operation, results from a conviction on the part of the society that no just awards can be made except upon a practical working trial before competent judges; and the fullest opportunity will be afforded to test the comparative merits of the various machines that may be entered as competitors for the awards, both as regards land for field implements, and steam power for stationary machinery.

A separate trial of reapers and mowers will be made at the appropriate season, special arrangements for which as to time, place, &c., will be announced at an early date.

It is intended that these exhibitions shall be on the most extensive scale, for the purpose of testing the working qualities of these important implements more thoroughly than has yet been done on any previous occasion either in the United States or in Europe.

All articles from foreign countries intended for exhibition may be consigned to the "Agent of the United States Agricultural Society, Louisville, Ky.," by whom they will be received and stored free of charge.

This brief announcement of the proposed trial is made at this early date to afford the most ample time for the preparation and transmission of machinery. A circular, containing full particulars as to regulations, will be issued as soon as practicable, and, with the premium list, will be forwarded to persons who may apply to the Secretary of the Committee, Henry S. Olcott, *American Institute*, N. Y., where all business letters should be addressed.

To enable the society to make arrangements on a sufficiently liberal scale, it is absolutely necessary that the Committee should know what articles will be offered for competition; and they therefore request that all inventors or manufacturers who may be disposed to unite in the proposed trial, will communicate their intentions to the Secretary at their earliest convenience.

TENCH TILGHMAN, Chairman, Oxford, Md.
JOHN D. LANG, Vassalboro', Me.
J. THOMPSON WARDER, Springfield, O.
GEORGE E. WARING, Jr., Am. Institute, N. Y.
HENRY S. OLCOTT, Sec., W. C. Farm School, N. Y.
*Committee on Implements and Machinery*
*of United States Agricultural Society.*

## DEEP PLOWING.

MR. EDITOR:—Bringing up new mould is peculiarly favorable to almost all crops, especially wheat, clover, beans, and potatoes; and, indeed, without that advantage, these crops usually diminish in quantity, quality, and value. Deep plowing is of great consequence, not only in furnishing more means of nourishment to the roots of plants, but by counteracting the injurious consequences of either too wet or too dry a season. This is a most important consideration, for if the season be wet, there is a greater depth of soil to absorb the moisture, and the plants are not likely to be injured by the roots being immersed in water; and in a dry season, it is still more useful, for at the lower part of the cultivated soil, "there is thus a reservoir of moisture," which is brought up to the roots of the plants by the evaporation caused by the heat of the sun. And deep plowing is a very good way of getting rid of weeds in particular; it is the best mode of eradicating thistles; and animal and vegetable manures, which have a tendency to rise to the surface, are properly covered.

I have ever found deep plowing attended with good crops, when crops on shallow plowed land in the same field were but indifferent, which seems a decisive proof in favor of deep plowing; but in deep plowing, when new subsoil is thrown up, it should in most of cases, I think, be done in the fall, as the frost helps to soften and ameliorate the hard substances, especially where there is a hard pan.

J. *in N. E. Farmer.*

*Barnet, March* 19*th.*

## FERTILIZERS.

The following excellent remarks of a correspondent of the *N. E. Farmer*, respecting the indiscriminate use of the various concentrated fertilizers now being pressed upon farmers, meets our views exactly. He says:

"It is unfair to pronounce judgment upon partial trial. If a system advocated plausibly, proves through our misapplication unadvantageous, who is to be censured? If a manure is given to a soil for a crop that does not demand it, and can in no wise be taken up to increase the expected harvest, who is to be blamed? The manure, the soil, or the one who misapplies, and does not adopt the proper arrangement to realize all the strength of what is to be afforded?

"It is the opinion of the writer, so far as his observation and experience has served him, that the present price demanded for any manures, especially concentrated, cannot be paid with profit by the farmer, only under peculiar circumstances. Acknowledging these premises, it is positively necessary for the farmer's patience, as well as for his time and money, to use the manures that he is acquainted with, or profit by studying the wants of his soil. And not till the farmer better understands the nature of the soil, and the influence of air, will he be able to support and defend an outlay beyond what his own land possesses. And when the farmer learns to manufacture and invest his soil with a fund that bids defiance to foreign influences, from his own precincts and laboratory, then he may purchase concentrated fertilizers at fair prices.

"The admixture of different soils might very conveniently be made at no considerable expense, which would be of permanent value. Lime and plaster can be used to supply deficiencies, and restore soils to good condition, if we had the intelligence and enterprise to manage them. It is no great credit for a farmer to send to New Jersey for earthy constituents, when he has suitable lands for peat, and a plenty of it, because some prodigal farmer recommends marl. Money and time are to an unpardonable extent expended upon the farm, the revenue of which fills the coffers of the quack manure dealer; and the time spent yields us no gratification, but to know that we are duped."

## FAST HORSES.

I scarcely take up a paper that has not some allusion to this topic; and what is most singular, I find no one that boldly encourages their introduction. The truth is, fast horses, like fast young men, are not worth rearing; their exploits dazzle for the moment, and then vanish away. I speak of the term *fast* in the technical sense in which it is used, and not in that more substantial sense, indicative of superior power and ability. No one will despise an animal because it can accomplish extraordinary feats; but an animal should not be valued for this ability alone. Among other writers, there is no one that I have met who has treated this topic with more delicacy and propriety than Wilson Flagg, a writer of whom it may in truth be said, "whatsoever he touches he adorns." I commend his essays to the notice of the public, confidently believing the more extensively they are read and considered, the more thoroughly will the public taste be improved and corrected.

I am by no means disposed to charge all admirers of fast horses with being blacklegs and gamblers, but I do think that the natural consequence of trials of speed, is the encouragement of these vices; and wherever these prevail, *intemperance* will be intermingled; and when "wine is in, wit will be out," as all experience testifies.—*N. E. Farmer.*

*March* 20, 1857.

## NEW IMPROVEMENT IN WELLS.

An important improvement upon the usual method of obtaining water for irrigation and domestic purposes, has recently been introduced into the city of Stockton, by means of which a constant and inexhaustible supply of pure water may be obtained at very trifling expense. It consists, simply, in the sinking of a shaft by means of a two-inch augur, attached to light bars of iron, with other apparatus for pumping, drilling, etc., similar to that employed in boring the artesian well upon the public square. It requires but the labor of a few hours with this apparatus to reach a depth of fifty feet, whence can be obtained a supply of water that cannot be exhausted by constant pumping. There are seven of these wells in that city in successful operation, one of which is in the garden of Dr. Holden, and reaches a depth of thirty feet. It affords an abundance of soft, clear water, such as is not usually obtained from the shallow wells from which the greater part of the water used in this city is obtained. This new mode of procuring water, by simple means and at trifling expense, was first brought into public notice in Stockton by Mr. Jesse A. Austin, who has constructed all wells of this kind now in operation. They are, no doubt, destined to become universally adopted as the cheapest and the most certain means of obtaining water at all seasons. We have examined a number of these wells, and from the evidence we have of their capacity, and the quality of the water they furnish, we believe they can be made of greater value to the farmer than the artesian wells, with the uncertainty of obtaining water, which must ever render them unavailable in the San Joaquim valley.

Mr. Austin first constructed one of these wells on his own place; from the success of which he was induced to experiment upon them in various parts of the city, and in every instance has succeeded in obtaining water in sufficient quantity for all the purposes of irrigation.—*California Farmer.*

## FATTENING PROPERTIES OF PEAS AND BEANS.

These articles have been found by chemical analysis, rich in nitrogen. The inference has been that they would be specially useful in supporting the waste of the muscles of animals, and it has been suggested that they would be particularly useful in the production of wool. They are evidently valuable for these purposes, but not the less valuable for the production of fat. Those persons who have used peas for fattening hogs, consider them worth as much as Indian corn. In districts where that grain is not grown, very fine pork is produced from peas. Dickson, in his work "On the Breeding of Live Stock," states that a sweepstakes was entered into between five East Lothian farmers, to be claimed by the one who should be pronounced the best feeder of cattle. Forty cattle of the same breed, and in equal condition, were divided between them, as fairly as possible. They were put up together the second week in September, and killed at Christmas following. The winner of the stakes fed his animals wholly on *boiled beans* with hay.—*Ex.*

## KEEP FRUIT TREES STRAIGHT.

Trees in an open exposure often acquire a leaning position from the prevailing winds. This should not be suffered beyond a certain stage of the tree. When as large as one's wrist, they should be set up erect, and, indeed, thrown into the wind at an angle of ten or fifteen degrees; in order to bring them ultimately into a straight position. This is best done by obtaining crotched limbs from the woods, eight to twelve feet long, and placing the butt end, which should be sharpened, on the ground, and the crotch end either against the trunk, immediately beneath the branching point, or against a large outer limb, if more convenient, securing it from chafing in the crotch, by a padding of straw, or litter, and setting the tree at once up to the desired angle of elevation. Loosen, also, the ground on the windward side of the root so that it will not bind, and the work is accomplished. Let this be done when the tree begins to make its summer growth, or soon after leafing out. One season, if the tree is thrifty, will be all that is required. If, however, it be obstinate, repeat the trial another year. The remedy is sure. Even large trees, which have acquired a permanent lean, may be thrown into an erect posture, by loosening the earth at the root, and occasionally cutting off an obstinate large root, without injury to its growth, and thus be made sightly. An erect tree will be longer lived and more fruitful than a leaning one, and not half so subject to casualty as if left to its own guidance.—*Ex.*

## SHARPENING EDGE TOOLS.

We translate the following from a German scientific journal, for the benefit of our mechanics and agricultural laborers: "It has long been known that the simplest method of sharpening a razor is to put it for half an hour in water to which has been added one-twentieth of its weight of muriatic or sulphuric acid; then lightly wipe it off, and, after a few hours, set it on a hone. The acid here supplies the place of a whetstone by corroding the whole surface uniformly, so that nothing further than a smooth polish is necessary. The process never injures good blades, while badly hardened ones are frequently improved by it, although the cause of such improvement remains unexplained. Of late this process has been applied to many other cutting implements. The workman at the beginning of his noon spell, or when he leaves off in the evening, moistens the blades of his tools with water acidified as above, the cost of which is almost nothing. This saves the consumption of time and labor in whetting, which, moreover, speedily wears on the blades. The mode of sharpening here indicated, would be found specially advantageous for sickles and scythes."—*Mark Lane Express.*

## DAIRY PROFITS.

MR. EDITOR:—In a late number of the *Farmer*, your correspondent, "Worcester," shows the cost of raising milk near the city, and proves that it can be made to pay a small profit at least. Thinking a few items in regard to making butter would be interesting to those who live so far from market as to prevent sending in their milk, I send you a few facts. My father keeps a small dairy, of from ten to twelve cows, and like many other farmers, keeps but little account of his profits or expenses..

Now I am one that likes to see things come round square, or, in other words, I like to see what stock or crops pay, and have for the last two years kept an account of income, losses, &c. Most farmers say that they should never dare to keep account of their farm expenses and profits for fear that they should see that they were running down stream, instead of improving their fortunes, or that they should see how foolishly some of their funds had been expended. I have had no experience in farming for myself, but it seems to me if I was going down hill, I should want to have my eyes open, in order to know when I got there. But they go upon the principle that "the blind horse travels best."

But I was about to give you a few facts in raising butter in the northern part of Vermont for the Boston market. The cost of keeping cows is much less here than near the city. Good English hay is worth $8 per ton, oats 33 cts. per bushel, corn $1, and other things in proportion.

INCOME FOR 1856 OF TWELVE COWS.

| | |
|---|---|
| 1670 lbs. butter, at 24 cts. per lb. - - - - | $400,80 |
| 270 " 18 " - - - - - | 48,60 |
| 225 " - used in the family, at 24 cts. per lb. | 54,00 |
| 12 calves - - - - - - - - - | 40,00 |
| 150 lbs. cheese, at 11 cts. per lb. - - - - | 16.50 |
| 300 lbs. pork, at 8½ ctc, per lb. - - - - - | 25,50 |
| Total, - - - - - - - - | $585,40 |
| Income from each cow, . - - | $48,78 |

COST OF KEEPING.

| | |
|---|---|
| 24 tons of hay, at $8 per ton, - - - - - | $192,00 |
| Pasturing, at $5 per cow, - - - - - - | 60,00 |
| 4 bushels of meal apiece in the spring, at 50 cts per bshl. | 24,00 |
| Interest per cow, $2,- - - - - - - - | 24,00 |
| Total. - - - - - - - - | $300,00 |
| Cost per cow, - - - - - - - | $25,00 |
| Profit from each cow, - - - - - | $23,78 |

One of the cows was dried up and fatted in October, and there were also two heifers in the dairy. I presume many of your readers could show much larger figures, though I think the average would fall somewhat below it. As far as my observations extend, the larger the dairy, the smaller the profit per cow, though with the same care and feed, other things being equal, I believe there would be no difference. I have come to the conclusion that farming is a pleasant, independent, and profitable business, if rightly pursued, and that we need agricultural schools where we can learn to analyze soils, in order to know what elements are wanting to insure good crops. I have often thought that if the farmer could analyze his soil, he would possess the key to unlock the door of sure success. I have for one determined to be a farmer. MAPLE,

*March* 4, 1857. *in N. E. Farmer.*

## NIGHT-SOIL.

It is a well-known fact that manure is valuable in proportion to the value of the food consumed. The manure from the fowl is more valuable than

that from the ox, because the fowl feeds on more highly concentrated food, being principally grain and flesh. The food of man, whether from the animal or vegetable kingdom, is generally highly concentrated, containing more nitrogenized matter and inorganic salts than the food upon which most of our domestic animals subsist. It is, therefore, apparent that human excrements are more valuable for agricultural purposes than those of animals. Of their comparative value, many estimates have been made, and we might give several analyses; none, however, place it lower than double that of the horse, sheep, or pig.

It is a fact no less striking than true, that nine-tenths of this valuable fertilizer, worth millions of dollars annually, is lost to the world, while millions of dollars are spent for guano to make up for this waste. We are not surprised that this subject has attracted the attention of the readers of the RURAL, and that we have before us several letters inquiring the best method of preparing this substance for use. The disagreeable odor of night-soil is the reason why its use has not been more general, and confined it almost entirely to those countries where the need of fertilizers is more seriously felt and their value better appreciated than here. To get rid of this odor, so as to make its use tolerable, is the great desideratum.

In England we have seen in one corner of a field a bank of earth thrown up about eighteen inches high, and enclosing a space fifteen or twenty feet square. Into this the night-carts are emptied.—When this enclosure contains about a foot in depth of fresh night-soil, about a couple of inches of dry earth is thrown upon the top. This is generally done about the first of June, and about the middle of July this "*pie,*" as it is called, is pretty dry on the surface. It is then turned over with the spade, so that the under part is exposed to the sun and wind. A little more earth is thrown over, and before the fall rains commence, it is dry enough for use, or to be put under cover.

One of the best methods of deodorizing night-soil, without destroying its fertilizing properties, is to mix with it powdered charcoal, or the refuse animal charcoal of the sugar refineries, which is still better. Burnt clay and dry peaty mold removes the disagreeable smell to some extent. Sulphate of iron is an excellent deodorizer fixing the volatile ammonia; and being cheap and readily obtained, is peculiarly valuable for this purpose. Lime is sometimes used, and effectually removes the odor, but lessens the value of the manure, as it expels the ammonia. Gypsum is often made use of, but with little success, as while doing no injury, it fails as a deodorizer.

In Flanders, where night-soil is more systematically preserved than in any other country, it is generally used in a liquid form. Water is applied until it is of such a consistency that it can be applied to the land with the liquid manure cart. In the same form it is used by the extensive market gardeners in the neighborhood of London, and with surprising effect. This is by no means a delightful operation, but all agree that it is highly profitable.

In the neighborhood of the larger cities of Europe, and in New York, night-soil is dried and manufactured into a portable manure, which is sold generally under the name of Poudrette. Like all other manufactured manures, poudrette is rather unreliable. Its value varies according to the different modes of preparation, and from the various substances with which it is mixed in the process of drying and deodorizing. If it is deodorized with sulphate of iron, or even with the necessary charcoal, it is of course exceedingly valuable, but its bulk and weight can be easily doubled by the addition of muck, or coal ashes, or an extra quantity of charcoal, so that nothing but an analysis or experiments can determinate its value to the agriculturist. Dried night-soil contains from 4 to 5 per cent. of nitrogen, yet the poudrette generally sold in Europe, contains but from 1½ to 2½ per cent. We do not know that a reliable analysis has been made of poudrette manufactured and sold in this country. In China, night-soil is mixed with clay and formed into cakes, which, when dried, are sold under the name of taffo. This manure is much esteemed by the Chinese, and is quite an article of commerce.

This is a subject of so much importance, that it deserves the attention of every student who is investigating the character of manures and their comparative value; and of every farmer who wishes to increase the value of his manure heap, and thereby the products of his farm.—*Rural New Yorker.*

"*A Practical Treatise on the Construction, Heating, and Ventilation of Hot Houses, including Conservatories, Green Houses, Graperies, &c.* By ROBERT B. LEUCHARS, Garden Architect."

We have recently had an opportunity of examining the above work, just published by C. M. Saxton & Co., of New York, and for sale by E. C. & J. Biddle of this city, and find it to be a most comprehensive and valuable treatise, probably the most so of any hitherto published in this country on the same subject.

Its author, with large practical experience, combines also high scientific knowledge of his business, which makes the work not only reliable, but we should think indispensable to every one who wishes information on subjects now very little understood.

No one who rides round the suburbs of our large cities and sees, in many cases, the extraordinary outlays of capital in erecting costly green houses, conservatories, graperies, &c., as appendages to country residences, a very large proportion of which, from improper construction or arrangement, bad ventilation, inadequateness of light, &c., answer no other purpose but for ornament, and often hardly that, but must at once appreciate the want of a treatise like the present.

A grapery is erected under the stimulus of some of the extraordinary bunches of Black Hamburghs, White Frontignan's, &c., exhibited at the Horticultural exhibitions, or the fine display of exotics from the conservatories of A. or B., but the feast of fruits or flowers follows only in imagination, and the reason is most obvious.

To use a common phrase, "There is a trade in every thing." There is but one right way to do every thing, and especially to construct buildings for the propagation, development, and display of the highly sentient organisms, and multiplied varieties of vegetable life, desirable in a green-house. Plants, like animals, have natural wants and requirements, which must be studied and conformed to, or there will be no success or pleasure in the result. We would not attempt to practice law or medicine without obtaining information on those subjects, or going through a course of study, and it is quite as inappropriate to erect conservatories, without availing ourselves of the practical experience of those who have made the subject the study of their lives.

We commend the work to the public with entire confidence. It goes into minute details respecting exterior and interior arrangements of all buildings for plants, the modes of heating, light, ventilation, methods of construction and materials, formation of gardens, cold vineries, forcing pits, &c., of interest to all horticulturists. Price, $1 25.

## THE MICHIGAN AGRICULTURAL COLLEGE

Was dedicated on the 13th inst. It is connected with a farm of 700 acres, three miles east of the capital of the State—Lansing. The tuition is free, and the students will be required to work three hours a day and be paid for their labor. There are accommodations for eighty students. It is the first State Agricultural College established on the continent. Its original endowment was $55,000, the proceeds of Salt Spring Lands, originally donated by the General Government to the Territory of Michigan. The sum of $20,000 per annum for the next two years has been nobly appropriated by the State to the objects of the Institution. The Faculty of the Institution—which will be filled at an early day—consists at present of the following gentlemen:—Hon. Joseph R. Williams, President and Director of the Farm. Robert D. Weeks, Professor of English Literature and Farm Economy. Rev. L. R. Fiske, Professor of Chemistry. J. C. Holmes, Professor of Horticulture. D. P. Mayhew, Professor of Natural Science. C. Tracy, Professor of Mathematics. An examination of students desiring admission was to be had on Monday, the 11th inst. It is said that there were as many applicants as the institution would accommodate.

## MULES VS. HORSES.

The longevity of the mule has become so proverbial, that a purchaser seldom inquires his age.—Pliny gives an account of one taken from Grecian history, that was eighty years old; and though past labor, followed others that were carrying materials to build the temple of Minerva at Athens, and seemed to wish to assist them; which so pleased the people, that they ordered him to have free access to the grain market. Dr. Rees mentions two that were seventy years old. In the West Indies, a mule has been known to perform his task in a cane mill, when over forty years of age. We once knew a mare mule twenty-five years old, that had been twenty-one years in constant work, and no diminution in her powers could be discovered. It was not uncommon for her to take upwards of a ton weight in a wagon to market, a distance of more than five miles. A neighbor has owned a very large mule about fourteen years that cannot be less than twenty-eight years old. He informed us a few days since, that he could not perceive the least failing in him, and would not exchange him for any farm horse in the country. A farmer living near Centreville, Maryland, it is said, owns a mule that is thirty-five years old, as capable of labor as at any former period.

In no country is the mule better adapted to all the purposes of husbandry for which the horse is used than our own. And it would be highly desirable to be able to exhibit a calculation of the actual saving in dollars and cents by his employment, but unfortunately no correct data can be had. And as we consider such calculations, unless founded upon experimental facts, and those multiplied, to be all "moon-shine," we shall merely submit a desultory comparison between the mule and the horse, derived from such facts as our own experience and information from authentic sources will justify the assumption of.

From what has been stated respecting the longevity of the mule, we think it may be fairly assumed that he does not deteriorate more rapidily after twenty years of age, than the horse does after ten, allowing the same extent of work and similar treatment to each. The contrast in the mule's freedom from malady or disease, compared with the horse, is not less striking. Arthur Young, during his tour in Ireland, was informed that a gentleman had lost several fine mules by feeding them on wheat straw cut; and we have been informed that a mule dealer, in the western part of this State, attributed the loss of a number of young mules in a severe winter, a few years since, when hay was exhausted, to feeding them exclusively on cut straw and Indian meal. In no other instance have we heard or known of a mule being attacked with any disorder or complaint, except two or three cases of inflammation of the intestines, caused by gross neglect in permitting them to remain exposed to cold and wet, when in a high state of perspiration after severe labor, and drinking to excess of cold water. From his light frame and more cautious movements, the mule is less subject to casualties than the horse. Indeed, it is not improbable that a farmer may work the same team of mules above twenty years and never be presented with a farrier's bill, or find it necessary to exercise the art himself.

Sir John Sinclair, in his Report on the Agriculture of Scotland, remarks that if the whole period of a horse's labor be fifteen years, the first six may be equal in value to that of the remaining nine; therefore a horse of ten years old,. after working six years, may be worth half his original value. He estimates the annual decline of a horse to be equal to fifty per cent. on his price every six years, and supposes one out of every twenty-five that are regularly employed in agriculture, to die every year, constituting a charge of four per cent. per annum for insurance against disease and accidents. He considers five acres of land, of medium quality, necessary for the maintenance of each horse, and the annual expense, including harness, shoeing, farming, and decline in value, allowing him to cost two hundred dollars, to exceed that sum about five per cent. which is the only difference between the estimate of this illustrious and accurate agriculturist, and that of a respectable committee of the Farmers' Society of Barnwell District, South Carolina, who, in a report published in the Charleston *Courier*, state that "the annual expense of keeping a horse is equal to his value!" The same committee also state that "at four years old a horse will seldom sell for more than the expense of rearing him." That "the superiority of the mule over the horse had long been appreciated by some of their most judicious planters—that two mules could be raised at less expense than one horse—that a mule is fit for service at an earlier period, if of sufficient size—will perform as much labor, and if attended to when first put to work, his gait and habits may be formed to suit the taste of the owner." This report may be considered a most valuable document, emanating, as it does, from enlightened *practical* farmers, in a section of the country where we may suppose a horse can be maintained cheaper than in any State further north.

Although a mule will work and endure on such mean and hard fare, that a horse would soon give out upon, he has an equal relish for that which is good; and it is strict economy to indulge him, for no animal will pay better for extra keep by extra work.—But if, by hard fare, or hard work, he is reduced to a skeleton, two or three weeks' rest and good keeping will put him in flesh and high condition for labor. We have witnessed such examples with mules twenty years old; so much cannot be said of the horse at that age. The expense of shoeing a mule the year round does not amount to more than one-third that of a horse, his hoofs being harder, tougher, and more horny, and so slow in their growth the shoes require no removal, and hold on till worn out—and the wear, from lightness of the animal, is much less.

The mule is accused of being "vicious, stubborn and slow," we can assert that out of about twenty employed in our vicinity at different periods during a course of thirty years, one only had any vicious propensities, and probably those might have been subdued by proper management when young. We have always understood they were true pullers, and quck travelers with a load. In fact, we have never known a mule refuse a "strong pull, and a long pull." Their vision and hearing is much more accurate. We have seen them before a family carriage, before a buggy-wagon, a cara, and under the saddle, and have never known one to stumble, start, or run from any object or noise—a fault in the horse continually causing the maiming and death of numbers of human beings. The mule is more steady in his draught, and less likely to waste his strength than the horse—hence more suitable to work with oxen; and as he walks faster, will habituate them to a quicker gait. But for none of the purposes of agriculture does his superiority appear more conspicuous than before the plow among crops, his feet being smaller and follow each other so much more in a line that he seldom treads down the plants. The facility of instructing him to obey implicitly the voice of his driver or the plowman is astonishing.

There is one plausible objection that is often urged against the mule, "that on deep soils and soft roads, his feet being much smaller than those of the horse, sink further in;" but it should be considered that he can extricate them with as much greater facility.

It is full time to bring our comparison to a close, which we shall do by assuming the position that the farmer who substitutes mules for horses will have this portion of his animal labor performed with the expense of one spire of grass instead of two, which may be equal, so far, to making "two spires grow where one grew before." For although a large sized mule will consume somewhat more than half the food necessary for a horse, yet, if we take into account the saving in expense of shoeing, farriery, &c., we may safely affirm that a clear saving of one half can be fully substantiated. But in addition to this, the *mule* farmer may calculate, with tolerable certainty, upon the combination of his capital for *thirty* years; whereas the *horse* farmer, at the expiration of fifteen years, must look to his crops, to his acres, or a bank for the renewal of his—or perhaps, what is worse, he must commence horse-jockey at an early period.

We cannot resist the impulse to exhibit the mule in one other point of view. For the movement of cars on city railways, the employment of this animal meets with a decided preference, in comparison with the horse, independent of the economy in using him. He seems so peculiarly adapted for that labor, that compared with the horse, he may be considered almost equal to a locomotive power engine.—*C. N. Bement, in American Wool Grower.*

## DEPTH AND MELLOWNESS OF THE SOIL.

Depth and mellowness of soil may be considered the principal characteristics of successful gardening. In our school-boy days, we have all read of the dying husbandman, who told his son never to part with the vineyard, as there was a valuable treasure lying within a few inches of the surface. The young man, in expectation of finding a bag of money, carefully turned over the soil, but found nothing.—In the subsequent harvest, however, he was astonished at the extraordinary luxuriance of his crops, and then understood for the first time the enigmatical meaning of his father's words.

The most obvious advantage of having a deep, mellow soil, is that the roots of plants are thereby enabled to extend themselves further, and with greater facility, in search of nutriment. The delicate fibrils of the onion have been traced to the depth of two feet, and those of the Swedish turnip to the depth of five feet below the surface. And long after they become invisible to the naked eye, they may be detected, by the aid of a microscope, pushing down deeper and deeper their thread-like extremities.—Downing remarks, "I have seen the roots of strawberries extend five feet down in a rich, deep soil; and those plants bore a crop of fruit five times as large and twice as handsome and good as the common product of a soil only one foot deep." Every one who knows for what purpose roots are designed, viz: to gather food from the soil, as well as to support the stem in an upright position, will perceive that, as their foraging ground may be extended, so the health and vigor of the plants to which they belong will be increased.

A deep loam derives much benefit from the atmosphere, in the development of its natural powers of productiveness. It has also been ascertained that the air we breathe is charged with a large per centage of the elements of vegetable growth, which it readily yields to a light, porous soil. Such a soil permits the immediate escape of water after heavy rains, yet by its capillary attraction furnishes a supply of moisture during a protracted drought. By its friability, it is more capable of absorbing heat during sunshine, and, therefore, more sensible of the early approaches of spring; and yet, it radiates heat so rapidly, that the deposit of dew in the summer nights is greatly facilitated. These latter two properties are very important, because the warmth of the sun is necessary for the roots, and because the free deposit of dew protects them from the fatal consequences of continued dry weather.

In fact, the only soil suitable for gardening purposes is one which is both deep and mellow—one which allows the roots to penetrate far below the surface, and is at the same time open to the meliorating influences of the atmosphere. A rich loam of but a few inches in depth, resting upon a cold, compact substratum, is hardly worth the trouble of cultivation. When the substratum is broken up, and made fertile by a regular process of tillage, then—and not until then—will its full powers be developed. Hence it appears that the gardener's first care, after he has got his ground properly laid out, is to pulverize it thoroughly for the reception of the seed.

If you have not much experience in these matters, you will inquire, good reader, how this is to be accomplished? In the outset, it may be as well to call in the assistance of a subsoil plow, which pulverizes the substratum without bringing it to the surface. This will answer a very good purpose, especially if you be in a hurry to get the ground in readiness for planting; but, at all times afterward, avoid the use of a plow. The paths will be broken up, the small shrubs injured, and early plants destroyed, by the awkward movements of the team; and, in addition to all that, the work will be done neither neatly nor thoroughly. You must, therefore, resort to the spade, which is the honorable badge of your profession. Some persons prefer the fork, because in consequence of its being much lighter, it diminishes the labor, while it effects a more thorough pulverization of the soil. In this

book we shall always use the word spade, and let the reader take either implement, according to his own fancy.

Many works on this subject recommend "trenching," as it was called, by which the surface soil changes places with the barren subsoil. It is truly said, that in the course of time, the whole will become of equal depth and fertility. But a very important fact is overlooked, viz: that until this be accomplished, the labor and expense of cultivation are much increased, and that the plants obtain only a scanty subsistence in their early stages, before the roots have penetrated to the rich soil.

We consider the following a much better plan.—It is sometimes termed the "bastard system" of trenching, and is thus performed: you commence at the corner of the bed, and open by the side of the path a trench two feet wide, and one spade deep, throwing the dirt into the path. Dig the bottom of the trench as thoroughly as possible, and mix it with the dung that is to be applied at this time. Run the spade down deep, and pulverize all the large clods. Then open a second trench of the same width and depth, throwing the dirt into the first one. Dig over the bottom as first directed, and cover it with the top spit of the third trench; and so proceed until you reach the other side of the bed, where you find yourself with an open trench, which must be filled by the earth lying in the path.

By this method, the whole piece of ground is spaded about two feet deep, and manure is intimately mixed with the lower spit. The good surface soil is retained in its old position, while the improvement of the substratum is left to the gradual mixture of the two, as well as to the influence of manures and the atmosphere. This thorough digging should be repeated every four or five years. To avoid the inconvenience of being obliged to do the whole at one time, it will be well to take one quarter every year, by which means the whole garden will be gone over in the required period. After this course has been pursued several times, and the whole soil has become moderately fertile, it may be well to try the trenching system; but, never at the formation of a garden. In trenching, you dig the first trench two spades deep, and fill in from the adjoining one—the top spit being placed at the bottom, and thus completely reversing the position of the surface and subsoils.

In addition to this quadrennial overturning, every bed will require an annual spading previous to the reception of the seed. It is performed somewhat in the way above described. Open a trench of the depth and width of the spade, and fill it by opening a second one, and so on to the other edge of the bed. Endeavor to raise about the same quantity of earth at each insertion of the spade, and deposit it in the trench with the bottom side uppermost.—As you proceed, break up all the lumps, and keep the surface level, by a peculiar stroke which is soon acquired by practice. The work will be much facilitated by digging in a perfectly straight line, and to a uniform depth. If manure is to be applied, when old and well rotted, it may be spread upon the bed, and spaded under; but if long and troublesome, it should be placed in the bottom of the trench.

The two kinds of trenching may be performed late in autumn, or in winter before severe cold weather sets in. At that time the gardener will not be hurried, and there will also be the advantage of exposing grubs and larvæ to the frost. The annual spading or pulverization of the surface soil, had best be done in spring; or it can be done roughly in autumn, and dressed over with the rake just previous to sowing. Dry weather should always be selected for this work, when the earth crumbles easily; because, if wet or heavy, on being stirred thus by the spade, it becomes a kind of mortar, and the operation, instead of being advantageous, is in reality productive of much injury.—*Schenck's Gardener's Text Book.*.

## WHAT MANURE TO PURCHASE.

In order to answer several present inquiries, from those who are now looking about for their fertilizers, we will here say, that the only manure we would recommend any one to purchase, aside from those obtained from the stable of animals, are those in which animal matter is the chief element.

Finely ground, *unburned* bones are probably the cheapest fertilizers, where they can be obtained in sufficient quantity at the present prices. They contain much animal matter, which if they are finely pulverized is quickly yielded to growing plants.—Bone *dust* or *sawings* can be applied directly to seeds or roots, where they are most effectual, without any fear of injury. The supply is unfortunately limited.

Next to the bone dust, we esteem good Peruvian Guano, which consists of partly decomposed bodies of birds and their excrements. We have seen no other brands of guano, so called, which we consider half as valuable as the Peruvian. Much, nay, most of the article sold as guano, with sundry appellants other than Peruvian, are little better than a mass of *mineral* matter. There is a great deal of stuff sold for Peruvian which is not genuine. The smell or appearance is no guide in purchasing. It is just now a common practice, among the unscrupulous dealers, to buy the genuine, and mix it with poorer guanos, or other material, and sell the whole in "government bags" as unadulterated No. 1. The only safeguard is to get it from respectable dealers, who are known to be reliable and to obtain their supplies direct, or those who buy direct of the accredited agents of the Peruvian Government. No guano is genuine which will not lose one-half its weight when heated to redness in an iron spoon or on a shovel. Great caution is required in applying good guano, as it will destroy seeds and plants when brought in direct contact with them. The best plan is to pulverize and pass it through a sieve, then mix it well with five to ten times its bulk of dry earth, a week to a month before using, and put the mixture into the soil a few days before adding the seed; or the mixture may be sown broad-cast as a top dressing. Used in this way it is a powerful fertilizer, for most crops, and on most soils.

Next to guano, we would name those superphosphates made by dissolving unburned bones in sulphuric acid. A preparation of this kind, well and honestly made, is, doubtless, very valuable. Almost all profess to use more or less Peruvian Guano in their preparations. The more of this and unburned bones the better, because these furnish organic matter. The sulphuric acid employed in all genuine superphosphates may serve a useful purpose in attracting and retaining ammonia from the air, and in fixing what is added in the guano.

The American Guano Company are preparing to introduce new deposits from its lands in the Pacific. If their cargoes are examined by outside, uninterested parties, and average samples are analyzed by men, who, like Prof. Johnson, of Yale College, do not furnish analyses "to order," but who have a credit and a position to maintain, we say, if the importations of this or any other company are submitted to such tests, every cargo found to contain a large proportion of valuable organic matter, will meet with a ready sale, and prove a blessing to cultivators. Care should be taken, however, to have every cargo tested.

Before passing to the consideration of "home-made" manures we will add a word in reference to plaster, and ashes. On many soils the common plaster of Paris (or gypsum,) has proved valuable, and as it is a cheap article, it may well be tried, except by those who have already done so and found it of little value. As an absorber of ammonia in the stable and manure heap it is always valuable, where an abundance of good muck is not at hand; and it doubtless serves a like purpose when sown broadcast upon a field.

The alkalies—such as lime, unleached ashes, and cheap refuse potash—are valuable upon cold, wet, sour land, especially where there is vegetable matter which is not in a state of decay. As above stated, any plant must be actually decaying before it can yield its elements to a new plant. All the heavier, damp soils contain more or less roots and vegetable matter, which need the aid of alkalies to assist or hasten their decomposition. On open, warm soils, lime or ashes are often injurious after a year or two, since they destroy the vegetable matter faster than it is used by the growing crops.—*American Agriculturist.*

## PRUNING.

There is, perhaps no subject in horticulture so little understood as the principles upon which pruning is founded. The object in pruning fruit trees is chiefly to hasten or regulate the crop of fruit, and induce or retard the development of wood growth. With reference to the former, more depends upon summer pruning and disbudding. Trees are frequently barren from excessive wood growth, which is weakened by pruning during summer. It is a well understood fact among scientific cultivators, that summer pruning weakens, and winter pruning strengthens the wood growth. Hence the practice of nurserymen in pruning young trees after the season's growth is completed, to increase their luxuriance.

Trees that have arrived at a bearing state, if properly managed during growth, would probably require no winter pruning, unless the removal of large and misplaced branches. In the abstract it seems a negative practice to encourage a luxuriant growth, and then cut it down in winter. It is quite possible to manage trees without having recourse to winter pruning, unless for special objects, as already alluded to. It is certain that much injury is inflicted by the indiscriminate use of the saw and pruning knife at this time, especially on young bearing trees.

Make it a study, next season, to disbud and summer prune all growing trees, so that you may weaken and check the wood; pruning such trees *now* increases their future vigor, since, by diminishing the branches after the fall of the leaves, the roots gain a greater preponderance. On the other hand, it is no less necessary to prevent weakness from over-bearing. Since the introduction of the dwarfing system, by grafting on weak growing stocks, this error has been frequently committed, and unprofitable trees have been the result. It has also had a tendency to throw discredit on the system, by those, who from want of knowledge and experience, have been unsuccessful in cultivation. There are many kinds naturally of slender growth—grafting them on slow-growing stock induces fruitfulness, and represses wood growth to an injurious extent. Such trees should have every blossom picked off that appears in spring, all growth carefully retained during summer, and pruned down in winter. Such

treatment will be followed by increased vigor, which may be maintained by taking moderate crops and continued good cultivation.

So much depends upon individual peculiarities in trees, that it is difficult to form a definite rule that would serve as a safeguard to the uninitiated. Close observation, extended experience, and, at the least a *slight* knowledge of physiology, are indispensable requisites to the successful cultivation of fruits.—*Horticulturist.*

## CARROT CULTURE.

IT is a singular fact that while so many of our farmers run with eager haste to purchase and test the qualities of some *novelty* in the agricultural world, so few feel disposed to give a trial to those more substantial and thoroughly tested plants, the value of which has been definitely ascertained. It appears far easier to persuade a farmer now-a-days to purchase half a pound or a pound of Chinese sugar-cane, a dozen Chinese potatoe roots, or some other new thing, than a pound of carrot or turnip seed. In the one case we have the reported experiments of a few interested individuals; in the other, the testimony of hundreds and thousands of our very best, and most experienced farmers. Why this should be so, we confess ourselves at a loss to know—and yet it is only the truth. Our pages will bear testimony to the fact that we have labored with what energies we possessed, to impress upon our readers the vast importance of giving more attention to root-culture; and it is with the hope of convincing some of the intractable ones upon this point that we make the following sensible extracts from the Boston Cultivator.

*The carrot*, for feeding milch cows and horses, is on the whole the best vegetable, and will give the most profit on lightish soils. The yield per acre in this section may be set at from 500 to 1000 bushels, or from 12½ to 25 tons. The root has of late years been so largely used for horse-feed in the eastern cities and large towns, that there has been a ready demand for it at from $10 to $15 per ton; giving, perhaps, an average of $10 per ton at the farm, or an aggregate income of $125 to $250 per acre. There can be no question that the cultivation of the article is profitable at these rates of yield and prices. It may be said that it is not worth what it is here reckoned at for home consumption. This may be true, and hence it may be better for the farmer who can sell his crop from the field at $10 per ton; to dispose of at least a portion of it and expend the avails in shorts, meal, or oil-cake. But whether carrots are reckoned at one price or another, the main question with the farmer who does not produce them for market, is, whether they are more or less profitable than other articles he could raise for feeding his own stock? As to nutritive properties, we have no data resting on positive demonstration. Perhaps the estimate of Boussingault is as correct as any that is based on chemical analysis. In a table on the "Theoretical quantities of different kinds of produce which will give equal effects in the growth of muscle," he places dry hay as a standard at 10; oats are placed at 5, Indian corn (grain or meal) at 6, potatoes at 28, carrots at 35, and turnips at 61. In this country we are in the habit of comparing the value of stock-feed with Indian corn. According to Boussingault's rule, five pounds of potatoes, or six pounds of carrots, would a little more than equal one pound of corn meal, while more than ten pounds of turnips are required for that equivalent. If the farmer will keep proper accounts with his crops, he may soon know their relative cost and value on this basis. But it must be remembered that this relates only to the growth of *muscle;* if the constituent properties of the articles were arranged according to their supposed value for the production of *fat*, the case would be somewhat changed.

After all, it is probable that the value of carrots for animals depends in a considerable degree on some property which chemists do not recognize in estimating the relative values of different kinds of food. For instance, according to the table above referred to, one pound of oats is equal to seven pounds of carrots, for the growth of muscle. A peck of oats may be taken at eight pounds, and the rule alluded to would make them worth as much for a horse as fifty-six pounds of carrots. People who have fed horses with both oats and carrots would not admit of the correctness of this rule. The prices we have mentioned as being paid by our livery-stable keepers may be cited in point. Opinions are not uniform among horse-feeders as to the relative value of these articles; but it has often been said that a horse which is not put to much quick work, will do as well on four quarts of oats and the same measure of carrots per day as he would on eight quarts of oats. It is a common remark that carrots are worth half as much per bushel as oats. The qualification in regard to quick work is made for the reason that rapid exercise under the carrot diet is apt to occasion a looseness of the bowels. The same result follows from feeding clover hay, although Boussingault reckons this as superior to common hay—or as containing two-fifths more of muscle-forming elements. Practical observation would assign about the same value to the best of clover hay, except for animals subjected to much exercise.

Carrots have a *healthful* influence on horses—they clear the blood of humors, aid the action of the digestive organs, and thus enable the animal to derive the full benefit from the hay and other articles it eats. The stunted colt or filly, or the gouty subject of mature age, is often made into a "new creature" by a winter's course of carrot-feeding. The effects of the root on other animals—particularly cattle and swine—are highly favorable.

One reason of the preference given to the carrot for milch cows, is the good quality of the milk it produces. In this respect it has the advantage over the turnip and cabbage, which sometimes impart to the milk an unpleasant flavor.

In the *cultivation* of the carrot, a deep, friable soil should be chosen. Even quite a light sandy soil will give good crops if it is made rich, and a good *stand* of plants can be obtained. The principal difficulty is in getting the seed to vegetate and starting the plants into leaf before the weeds get ahead. The seed is rather slow in germination, and the young plant is tender; but after it has had a few days of favorable weather, it will have struck its root so low that it will sustain itself under almost any drought. To start it with as much rapidity as possible, it is sometimes practised to soak the seed till it is nearly sprouted, and then mix it with plaster or other dry substances and sow it immediately. This is perhaps the best way where many weeds are anticipated. The chief objection to it is, that if the ground is dry, the seed may shrink, and if it does it will fail to germinate. The precaution should be used to sow while the ground is moist enough to force the germ right along.

The sowing or planting can be well done by various hand-drills. It has formerly been thought an advantage to plant in double rows, leaving each alternate space wide enough to admit a narrow cultivator to be drawn by a horse,—but the use of the *wheel-hoe*, by which the work may be done much more expeditiously and easily than with the ordinary hand-hoe, and in a more neat and perfect manner than it can be done by horse-power,—renders the former plan inexpedient.

Of the *turnip*, we have not space to speak particularly in this article. As before remarked, we think it less valuable for milch cows and horses than the carrot. But it has advantages as an after or *stubble* crop, which are too frequently overlooked. It can be grown the same season that wheat, rye, or hay has been taken from the land, or, as we mentioned a short time since, among corn, and from the trifling cost of the crop is well worthy attention.

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### CULTIVATING MARSHES.

MR. EDITOR:—Having been much benefited by the experience of my brother farmers, received through the medium of your paper, and having had some experience of my own, I propose to give it, hoping others may be benefited in turn.

About fifteen years ago, I had a ditch two feet deep and three feet wide, cut around my marsh, except on the west side, which is bounded by a stream of water. The marsh was very wet and boggy; in a few years it settled down to a level with the bottom of the ditch. I then ditched it again with the same sized ditch as before. In cutting this last ditch, I found clay about one foot below the surface of the marsh. My marsh then became hard and dry, excepting in freshets. The fine, fowl meadow grass soon run out all other grasses, and it would yield over two tons per acre; but it would lodge or get down between the bogs before I could get it mowed, so that it was almost impossible to mow it.

At length I concluded I would plough my marsh and make it smooth. We fixed up a No. 7 break-up plough, the same as they do for breaking up land with, excepting we had steel put on the coulter or cutter as high up as the beam, so that the bogs would not clog the plough. I ground the coulter and the share sharp every day that we ploughed; and when they got dull, we sharpened them with a file, such as is used to file saw-mill saws.

The month of June is the best time to plough a marsh. Plough under all the grass and weeds that you can, to help to subdue the sod. The best crop to subdue it, is buckwheat sown about one bushel to the acre. I neither harrow, nor bush, nor roll the first crops, because the sod is so tough it would be of no use; and it is almost impossible to drive teams over it, because they go down so between the sods. And all the buckwheat that I have sown, has always grown well enough without doing anything to it after sowing; I generally get from thirty to forty bushels per acre. Then about the first of the next June I plough it again, and sow buckwheat and seed it down with timothy, red-top, and clover. Then I bush it, and roll it; and after the buckwheat is off in the fall, I roll it again. I have about twenty-five acres of marsh seeded down, and it yields over two tons of cultivated hay per acre. I intend to plough all my marsh as soon as I can. I have tried spring ploughing, and fall ploughing, but they are not as good as June.

I have tried different kinds of crops on my marsh. Corn, pumpkins, potatoes, and flat turnips are first-rate, after the marsh is subdued. I have tried most kinds of root-crops, and they all did very well; also wheat, rye, and oats, but they did not amount to much.

When I first ploughed my marsh, most of my neighbors said that I never could get it seeded down with cultivated grasses; and now some of them advise me not to plough any more marsh, because, they say, the cultivated grass will run out after a while; but I guess it will not run out to anything worse than wild grass.—JOHN JONES, *in Mich. Farmer.*

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### PROFITS OF GRAPE CULTURE.

Sidney George Fisher, of Philadelphia, lately read an essay before the Philadelphia Society for the Promotion of Agriculture, from which we extract the following:

"The two facts being established that various kinds of wine of good and constantly improving quality can be produced with ease, and also that the demand for it, so great now as to be beyond the means of supply, is likely to be indefinitely extended, the next thing to be considered is the profit that may reasonably be expected from the cultivation of the grape. On this point statements vary materially, as much depends on locality, the season, the skill, and capital employed, and other causes affecting the crop and price at which it sells. It is stated in the Patent Office Report for 1854, that in the neighborhood of Cincinnati 'the average yield in a series of years, from vineyards favorably situated and well cultivated, is estimated at 300 gallons per acre.' The average price is $1 to $1 25 per gallon, and the cost of labor in making a crop, $60 to $80. 'Some of the best vineyards produced last year 800 to 900 gallons, but that is unusual.' Another authority says that 400 gallons is the average crop, and 1,000 to 1,200 gallons sometimes obtained.

"In a report recently made to the American Wine Growers' Association, of Cincinnati, by the Committee on Vineyards, is an account current of expenses and receipts with a vineyard of half an acre, during the first eight years of cultivation, from which it appears, that, including interest, and $50, the price of land, the whole expense was $211 10, and the receipts $1,004 04, showing a net profit in eight successive years of $892 94, from half an acre, which is $223 per acre a year. This was during the first eight years, the value of the fruit being only $37 until the fourth year. As the grape-vine continues to increase in productiveness for ten or twenty years, the subsequent profits may be expected to be much larger. I have received a letter from General Keim, containing an estimate of the probable cost and profit of an acre of vineyard near Reading, in this State:

| | |
|---|---|
| "The whole expense, including cost of land, outside enclosure, vines, trellis work, and all labor, is - - - - - - | $642 00 |
| Cost of wine-press, shedding casks, &c. - | 200 00 |
| Total capital invested - - - | $842 00 |
| The average yield is about 640 gallons of wine, worth at the press 80 cents, or - | $512 00 |
| The yearly expense - - - - - | 80 00 |
| Leaving a clear profit of - - | $432 00 |

"A large portion of this original cost would, however, be saved by a farmer who made the vineyard a part only of his business; a part of it also would not be proportionably increased by having more land; it is likely, also, that the rot and other causes would somewhat reduce the amount of profits."

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### FARMERS, YOU OUGHT NOT TO EAT IN THE KITCHEN.

It is the custom with some farmers to make a constant practice of taking all meals in the kitchen; but this habit *marks a low state of civilization.* The occupation of farming is the natural employment of a human being, and it ought to be made a refined and noble pursuit, not a mere way of earning a rude subsistence. It is among the sons and daughters of the farmers, that the pith and marrow of a country are to be found, and every grace that belongs to rural life should find its highest examples in the home and family of the intelligent American farmers.—*Vaux.*

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### THE FAMOUS HORSE "NORTH STAR."

HENRY OLMSTED, ESQ., of East Hartford, Vt., has taken this fine horse, with several Morgan mares, and gone to Harrison county, Iowa, to a new settlement, which is to be called Olmsted. He was offered three thousand dollars for the North Star, at East Hartford, but declined the offer, preferring to retain him, and improve the breed of horses in that section of the West. He takes along with him about twenty good farmers, and several mechanics. This is the true mode of settling and reclaiming the West.

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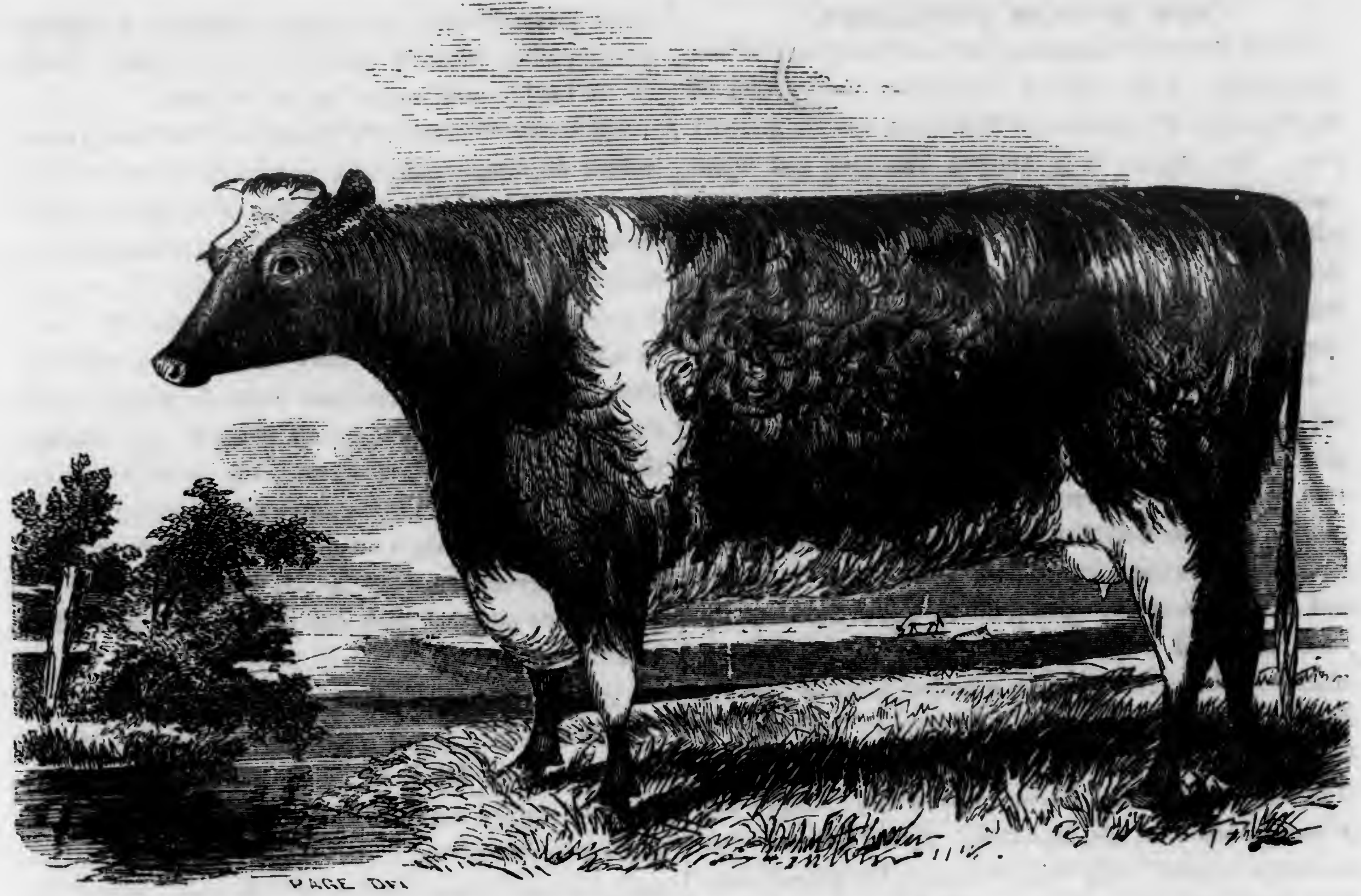
Wheat sown in December, has ripened and ready for harvesting by the middle of May, in Georgia, while that sown in September, is not ready to harvest before July, in Maine—so that as many chemical changes take place in Georgia in five months, as in Maine in ten. These changes consist in decomposing both organic and inorganic substances, and rendering them soluble for the use of plants.

**ISABELLA,**

A thorough bred Durham, the property of James Gowen, Esq., of Mt. Airy.



**ROWENA 3d. (Imported.)**

Roan; the property of T. P. Remington, Red Leaf, near Philadelphia; calved February, 1851; got by Sir Walter 2d (E. H. B., 10,834); out of Rowena, by a son of Noble (4578); Rowena, by his Royal Highness (4039); Ruth, by Belvedere 4th (3129); Polly Hopkins, by Adolphus (1611); Primrose, by Colonel (3425); by Alba (726); by Symmetry (641); by Marquis (1196); by son of Favorite (256). P. 568, W. C × Coates' Herd Book.

The son of Noble was bred by Mr. Rowe, of Tolesby Hall, Stockton on Tees, and sold to Sir Robert Piggot (or Piquott), for 100 guineas; Premium, the dam of this bull, was a splendid cow. (See Herd Book, vol. 6, page 513.) Was a winner of many prizes. (See the Rev. H. Noel Hill's letter, of June 21, 1855.) Owing to Mr. Rowe's death, he says, the son of Noble was not entered in the Herd Book, but will have it done.

### SALT BARRELS FOR PRESERVING APPLES.

We have received a letter from C. W. Cooke, of Waterloo, N. Y., in which a fact of great importance is related in reference to the preservation of apples. He purchased five barrels of choice apples taken from one pile, last autumn, and put them into his cellar. On the 1st of April last, when he came to examine them, those in four of the barrels were mostly all damaged, while those placed in the other barrel were sound—"fresh and good." What was the cause of the preservation of the apples in this barrel? Our correspondent says it was a Syracuse salt barrel, and had contained coarse salt, and he believes this was the cause of their immunity from rot. He at least can give no other reason. Neither can we.—*Scientific American.*

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The quantity of drain-pipes made in England is said by the *Builder* to average forty miles a week! and of these, probably one-third are made in Lambeth.

### POTATO-DIGGING BY MACHINERY.

Every one who has dug potatoes, and felt the back-breaking, head-aching trials which accompany the tedious process, will feel a bound of pleasure on learning that Yankee ingenuity promises to supersede by machinery the afflictive labor of gathering this important harvest. Capt. Taggart, of Roxbury, has patented a simple contrivance for the purpose, which an agricultural house in Utica is about to carry into practical use. It is a plough-shaped machine, with a double set of revolving metal fingers, which take up the favorite fruit, winnow them from the earth, and deposit them in baskets hung on each side, or in a couple of rows upon the earth. With a pair of horses, a man, it is calculated, can dig from six to ten acres per day. We shall watch, with curiosity, the results of a trial of this very useful invention. It will work a very important revolution in potato-raising, if successful.

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Clay will permanently improve any soil that is sandy or leachy. Lime and leached ashes will also benefit leachy land.

## "HOW TO FARM PROFITABLY,"

Is the title of a pamphlet just published under the authorship of Mr. Mechi, of Tiptree Farm, one of the Sheriffs of London and Middlesex for the present year. Mr. Mechi, it is known, has laid out large sums in experimental farming, which sums he has added to the capital of his estate, and he asserts that after all that he has expended he is farming with a profit. He lays down the following rules as essential preliminaries to profitable farming:—

"A thorough knowledge of your business, practical and theoretical; ability to buy in the cheapest and sell in the dearest market; to select the most able workmen of industrious and honest habits; to choose as your bailiff a man of forethought, integrity, and firmness, combined with great industry and keen perceptive powers; to apportion rightly your land and capital; to maintain in economical efficiency the motive power, whether horse or steam; deep, frequent, and clean cultivation; drainage of land not naturally filtrative; shelter for stock; efficient machinery and farm implements; ample use of purchased food and manures; rigidly correct farm accounts, posted daily from the cash-book and journal; estimates of the costs and return of each crop in detail."

For the arguments in detail we must refer to the pamphlet; but we willingly find space for these extracts:—

"COMPARATIVE MERITS OF CORN AND CAKE.—A farmer, whom I knew, divided a field of rape—half was fed off with sheep eating barley, and half with sheep eating an equal value of oil-cake; the difference in the subsequent crop of barley was two quarters more after the cake than after the barley. This is consistent with chemical analysis, the cake containing nearly twice as much nitrogen and phosphate. Nobody will ever be ruined by using plenty of rape-cake, either for feeding or for manure; you may always see the results in the following crop. I have used 100 tons: it contains quite as much manurial element as oil-cake, and costs much less money. I never saw a sheep that would not eat it. I have fattened some thousands on it. When sheep are on clover, giving them rape-cake and locusts will make them fatten most rapidly, and the mutton is peculiarly rich and palatable. They are wonderfully fond of the locusts, and will, if you permit them, eat a large quantity. When they know the locusts are in the troughs, they will race to the fold to be first, not so when there is only rape-cake.—They are more fond of linseed-cake than rape-cake. As a general rule, I think 7 lbs. of either rape-cake, linseed-cake, or beans, will make 1 lb. of net mutton. If so you get the manure for nothing, when a pound of mutton is worth as much as 7 lbs. of either rape-cake, linseed-cake, or beans. This is a cheaper manure than any you can buy at any price. Seven lbs. of barley will make one lb. of pork.

"MANGEL WURZEL FOR HORSES.—I seldom give my horses any hay; they get two bushels per week of crushed oats, plenty of fine-cut and sifted wheat-straw or oat-straw, and 20 to 30 lbs. of mangel wurzel per day: their condition is first-rate. The mangel is a perfect substitute for hay, and keeps the horses in excellent health. It may be used immediately after being pulled, provided there is plenty of dry chaff with it. There is no reason why mangel should not fatten horses as well as bullocks and sheep. I know a very extensive farmer in Suffolk who uses mangel on a large scale for his horses, and finds it a great economy as compared with hay. The mangel are cleaned from any soil, and thrown whole into the manger.

"GROSS EXPENSES PER ACRE ON THE WHOLE FARM.—Rent 1*l.* 15*s.*; tithes, great and small, 5*s.*; church rate, 2*d.*; road ditto, 3*d.*; poor ditto, including police and county rate, 2*s.* 3*d.*; manual labor, including engine driver and bailiff, 2*l.* 8*s.*; horse labor, 15*s.*; seed, 8*s.* 6*d.*; depreciation, or wear and tear of implements, 2*s.*; steam power, 8*d.*; blacksmith, wheelwright, cooper, founder, saddler, basket maker, bricklayer, carpenter, and veterinary, 5*s.* 6*d.*; thatcher, 1*s.*; depreciation of horses, 2*s.*; artificial manures, lime, chalk, and rape-cake, 10*s.*; wear, tear, and loss of sacks, 3*d.*; bean tiers, 3*d.*; loss of stock, and casualties, 1*s.*; loss of land by roads, buildings, fences, and waste, 1*s.* 6*d.*; road mending, ditch cleaning, fence trimming, &c., 1*s.*; miscellaneous petty expenses, 1*s.* 6*d.*; irrigation, permanent charge per acre, 6*s.*; malt and hops used in brewing beer for men, 2*s.*; total, 7*l.* 17*s.* 2*d.*"

Soils often contain not over one part of phosphorus, in a soluble condition for the use of plants, in 5000; and yet, without this small portion, not a blade of grass, or seed of grain can be produced. To extract this from the soil, and not return an equivalent, will soon render the soil sterile and worthless.

The citizens of South Carolina are now taking active measures for the establishment of an Agricultural College in that State. We hope their efforts will be crowned with complete success.

During the past month, the Commissioner of Patents, has re-issued a patent to Obed Hussey, of Baltimore, for his improvement in Reaping Machines, patented August 7, 1847.

For the Farm Journal.

## AGRICULTURAL FAIRS AND TROTTING HORSES.

MR. EDITOR:—It has been said, that a correspondent always comes off *second-best* in a discussion with the Editor. But as I have full faith in your justice and candor, I will try to say a few words in answer to your comments in the May number of the Farm Journal. But in the first place I wish to correct a *few* typographical errors.

I did not say "four mile heats *or* king's plates;" but "*and* four mile heats *for* king's plates." "*Where* there is neither eye to pity," not '*when.*" Not "*Again* at a crowded party, but a *jamb.*" Not "the Indian hug of the stout *waist*, but the Indian hug of the stout *wrestler.*" Indian hug is the back-hold with breast to breast—so called from being the favorite mode of our native Delaware Indians;—and often depended more on the power of compressing the waist of an opponent, than in skill or activity.

Farmers are not the best chirographers in the world, I must confess; but editors are bound to make either *rhyme* or *reason* out of their communications, or reject them. The old account being now squared, I must try to open the new.

You say "Convince us that horse-racing, *with all its concomitant evils*, does not present a scene of moral depravity *infinitely worse* than either of the other sins alluded to, and we will admit a portion of the argument."

You certainly must have meant this in a *Pickwickian sense*, for the only *common sense* objection to racing is that it leads to betting. The vices alluded to, were *gambling* and *drunkenness;* now how anything that leads to a particular sin, can be *infinitely worse* than the sin itself, is hard for a man not skilled in metaphysical reasoning to understand. But your concomitant evils have nothing to do with the argument. I am advocating trials of speed at our fairs, that the concomitant evils may be kept out. Why don't you pour out at least one vial of your wrath on the right of suffrage, for free elections have more "concomitant evils;" lead to more betting, gambling, slanderous lying, fighting, duelling, and murders than all the racing in England or America. But is any one foolish enough to advocate monarchy, because some men will abuse liberty? If you do away with the good, because the bad will be bad, under all circumstances, you will have nothing left. I have seen and heard of more brutal sin and gross immorality during a protracted religious meeting, than any race-course in the United States has ever produced in the same length of time. We do not blame the members of the church; they went to do good, and they did good. The dregs of society that went there for evil, would have been workers of iniquity in some other place, if not there. We make laws to restrain such people, not to do away with free suffrage or religious meetings.

Now, Mr. Editor—unless it increases your happiness—I would rather you would not build up a man of straw, write my name under it, and then knock it down; for I am only defending just such trotting as we had at the United States' Fair last fall. Did you see, or hear, of any of those "concomitant evils," "*infinitely worse*" than gambling and drunkenness, or any other lesser sin or evil, that would not have been there if the gallant steeds and their skillful riders and drivers had been a thousand miles away?

The good conduct of the immense crowd was remarked by all; and I have no doubt the principal reason was, that there was pleasurable excitement enough for all, without having to resort to gin or brandy to increase it—as I have heard it said that whist is never played for money, the game itelf being sufficiently interesting without it. Suppose bets were made privately; gamblers will bet on any chance occurrence—the harm is in the men, not in the opportunity. A man once dropped down in the streets of London, and was carried into a hotel. Bets were instantly made for and against his chance of restoration to life; and when a surgeon offered to bleed him, it was objected to by one of the parties, as altering the nature of the bet. This was bad enough; but I think *all the blame* should not be laid on the poor man who died in the street.

In looking over the sea of faces that surrounded the circle at Powelton, I recognized many of the most virtuous and consistently religious people in town and country; most of them surrounded by their families. All seemed delighted and deeply interested; and not one of them appeared to think they were *sinned against or sinning.*

American training has made our *trotting horses* the fastest in the world; even the English have to acknowledge, that they are "too swift for the speedy, and too strong for the stout." And it was one of the first acknowledgments of superiority they were compelled to make. The yacht *America*, and the *mowing machine*, came afterwards; and who, with an American heart in his bosom, did not exult in the triumph of all three?

**"Lives there a man with heart so dead,**
**As never to himself hath said,—**
**This is my own, my native land?"**

I am not sure, friend Emlen, whether the last quotation is intended for prose or verse; but I have given it poetry fixings on suspicion. If not poetry, it ought to be.

In conclusion I can only say, that I am sorry the trotting horse and all other accompaniments of manly field-sports, has not found a more able advocate; for all people will *degenerate*, and always have degenerated, when they left athletic exercise in the open air for the effeminate amusements of large cities. When the Persian boys were taught to "*ride, draw the bow*, and speak the truth," they made themselves masters of Asia. But when they became rich and effeminate, they were conquered by a handful of *foot-racing*, *horse-racing*, *chariot-racing* Greeks. And now the first men in the world, *physically* and *morally*, are the *hare-coursing*, *fox-hunting*, and *horse-racing* farmers and gentry of Old England.

J. W. VAN LEER.

*Chester County*, May, 1857.

## SEEDING LAND TO GRASS.

A friend proposes the following case: A piece of ground which it was designed to have seeded to grass in connection with a crop of oats, was so wet that it could not be worked on at the usual time of sowing. Is it best to put in buckwheat, plow in that crop, and then lay the ground down to grass? What is the best general treatment for it?

If the main object is to get the land set to grass, we do not think there is much loss in its not having been sown to oats. The growth of any grain crop with grass is unfavorable to the latter, but oats are *most* injurious. Why this is so is not known fully, though we know in part. Oats are very liable to lodge down, and where they do lodge, the grass is *smothered* out. It has been said that oats, more than other grains, rob the grasses of their food. Whatever may be the *rationale*, experience proves that grass will generally do better with wheat, rye, or barley, than with oats. But, as before remarked, we should feel more certain of obtaining a good sward by sowing the grass itself. It is true if oats or barley are sown and cut green, they damage the grass less than if they ripened, and their value as forage may balance the deficiency they cause in the grass crop. The practice of sowing grass alone, however, is spreading, and it is generally conceded that autumn is the best seed-time.

As to plowing in buckwheat, it is of doubtful advantage. We have known instances where the turning in of this and other green crops did injury rather than good—the vegetable matter appearing to *sour* the soil. If the trial should be made, we would suggest that a part of the lot—say a strip a rod wide through the middle—be left without any buckwheat, so that a fair comparison could be made in reference to its effects. Perhaps we should say in this connection, that it is against turning *green* vegetable matter into the soil that we object. We prefer that clover, for example, should get rather dry before it is plowed in.

If the ground alluded to has been pretty deeply and thoroughly tilled for a year or two past—as we presume it has been—we would not plow it very deep to lay down to grass. We would make it smooth, and stir it only enough to do this, because grass does best with rather a firm soil. Of course we mean *grass*, not *clover*. As to manuring grass, we would do it by top-dressing,—on moist land, like that in question,—applying it in autumn, which would aid the grass to stand the winter, besides getting it ready for an early and vigorous start in spring.—*Boston Cultivator*.

## STARVATION AT THE WEST.

The New York Evening Post, of the 26th ult., has an article upon the subject of the scarcity of food at the West. We have reason to believe, however, that the shortness of supply of food and fodder of which it speaks, was only of a temporary character, and will soon be, if it has not already been overcome. The Post says:

"Our country is upon the verge of famine. We have never known so wide-spread and extreme destitution as prevails at present, especially in the Western States. We feel the pressure here on the Atlantic severely, but as yet there is no distress that we are aware of. West of the Alleghanies, however, cattle are perishing by the hundreds, and people pine for lack of food.

"In Iowa, the traveller finds no hay or straw for horses at any of the hotels. At Des Moines, corn is considered cheap at two dollars, and can scarcely be had at that. It is reported that five dollars is the regular price in many places between there and Council Bluffs. Dead horses and cattle along the road are said to be ordinary sights. Wheat seems to be nearly as scarce as corn and hay. Flour is selling at five dollars and five dollars and fifty cents per hundred, and rising. High as this price is, farmers who could afford it were feeding their carriage horses on wheat.

"In Michigan, one of the most substantial farmers in the town of Arcadia reports, that in his neighborhood most of the families have only a few potatoes left for seed; they have divided with each other until they can divide no more, and have seed to plant. Each has from one to three bushels. He had, last season, one and a half acres of fine corn, that was cut off by an early frost when it was in the milk, and he could only use it for provender for his cattle. The cattle have had to subsist mostly through the winter on browse. He has heard of

neighborhoods north of him, from ten to thirty and even sixty miles, that have nothing but oats to boil for food, and that one woman and two or three children west of him, in Montcalm county, had died for want of food.

"Samuel Hewlett, one of the leading butchers of Detroit, returning from a business trip throughout the north part of Macomb county, in the same state, reports to the editor of the *Detroit Advertiser* that he was compelled to ride miles in order to find feed for his horse. He says that the cattle and horses are suffering greatly, and that the sheep and lambs are dying of the scours by the hundred. This state of things he reports upon his own observation, and adds that he saw a number of persons from the county of Lapeer, adjacent, who say that matters are much worse there.

"In Tennessee, things are in a still worse condition. The *Knoxville Register*, of the 7th May, says that everywhere in East Tennessee, the greatest scarcity of provender and grain of every description prevails. The cattle are actually dying by the thousand, and in some places the dependence is to cut down trees, that the cattle may eat buds. Nor is this alarming state of affairs confined to cattle. In many sections of the country, families that have been well provided with not only the necessaries, but many of the luxuries of life, are so straitened as to be compelled to go forty or fifty miles to buy corn or wheat.

"While this is the case with those who have heretofore been comfortable and independent, the *Nashville American* says that the greater want prevails among the poorer classes, and in counties east of Knoxville; that some of them were actually unable to have more than one meal a day.

"From Canada the same cry of Hunger is heard. The *Hamilton Spectator* says that hay brings $30 a ton, that no oats are to be found except what are needed for seed, and cattle have been driven into the woods, 'where they are now dying in numbers from sheer starvation.'

"These are some of the fruits of the excessive stimulus given to Western emigration by the immense land grants of Congress."

Per contra, we find the following in the *New York Journal of Commerce* in regard to the coming crops:

"The croakings about the wheat crop which filled the air a short time since, are gradually dying away, and instead of them we have cheering accounts from those States concerning which the former representations were most gloomy.

"The editor of the *St. Louis Republican* recently conversed with a gentleman who has just returned from a tour through fifteen counties in Southeast Missouri, who informs him that the wheat looks well in all those counties, and promises a good crop. He thinks there cannot be less than a two-thirds yield, and represents the farmers of that section as greatly encouraged."

## PROVISIONS AT RETAIL IN 1840 AND 1857.

The New York Hotels base their proposed advance in the price of board on the following changes in the retail prices of provisions in that city:

| | 1840. | 1857. |
|---|---|---|
| Meats, (fresh) per lb. | 7 @ 12½ | 16 @ 25c |
| Meats, (salt) do. | 6¼ @ 10 | 12 @ 18 |
| Potatoes, per bbl. | $1 25 @ 2 00 | $3 75 @ 7 00 |
| Flour, do. | $5 00 @ — | $9 00 @ 11 00 |
| Butter, per lb. | 12½ @ 18¾ | 25 @ 32 |
| Cheese, do. | 8 @ 10 | 12 @ 20 |
| Fish, do. | 4 @ 6½ | 8 @ 14 |
| Poultry, do. | 10 @ 12½ | 18 @ 25 |
| Sugar, do. (fam. use) | 6½ @ 10 | 12 @ 19 |
| Apples, per bbl. | $1 50 @ 2 00 | $5 00 @ 7 00 |

*From the Maine Farmer.*

## OVERHANGING FRUIT.

However highly we may esteem the editor of the *Rural* as a correct writer, we cannot agree with him or his lawyer upon the subject of fruit trees overhanging the fence, and extending their roots into the soil of another man's land. In reply to an article in the *Maine Farmer*, questioning the right to grow fruit trees in this manner, and without any remedy on the part of him who suffers the inconvenience, or injury, the editor copies the remarks of some pretended lawyer of Massachusetts, with reference, also, to the decision of a case by some court in Connecticut, and which is regarded by this learned limb of the law as final—beyond all controversy.

Now, we make but small pretensions to any knowledge of the proper application of the general principles of law in any particular case, especially where some knotty question is concerned. In our humble views of this question, it seems a very plain one, if common sense, with well known and acknowledged principles of law are admitted as proper guides in coming to a decision.

It is denied in all possible contingencies, that one man can be suffered to invade and trespass upon his neighbor's property, without a liability for damages. As an offset to the argument of the Massachusetts lawyer, (whose fruit trees, we have no doubt, are rooted in and the branches hanging over his neighbor's premises,) we will refer to the opinion of a Maine lawyer of our acquaintance, in reply to a farmer who had stated to him the question at issue. The lawyer inquired—"You own the land on the side opposite the fruit trees, do you?" "Yes," replied the farmer. "Well, then you own perpendicular to that line, down to the lowest hell, and upward to the highest heaven. If the owner of the trees forbids your taking the fruit on your side, or refuses to compromise for the damage in some other way, then cut square up and down as low and as high as you please, and I will defend you against any prosecution for the act of self-defence." Now, "unless this just rule is adopted at once," in reference to ourself, we intend to follow the advice of our learned Maine lawyer, the coming fall, and cut square up and down, till the nuisance is abated, and call it JUSTICE.

*Winthrop, May* 11, 1857.

## SUGAR INTEREST OF NEW ENGLAND.

Joseph Hurd, A. M., who died at Malden, Mass., March 19, 1857, left a will, in which he gives the sum of $5000 to each of the States of Maine, New Hampshire, Vermont, and Massachusetts, and directs it "to be kept judiciously invested, and that the income thereof shall be applied yearly in giving prizes to promote and encourage the manufacture and refining of sugar," in said States.

The whole value of Mr. Hurd's estate is variously estimated at from $40,000 to $70,000, and the residue of it is bequeathed to his heirs at law, who are classed among the wealthiest people of Massachusetts. Thus it appears there are no private interests to prompt any individuals, or parties, to sustain the will, but on the contrary, his heirs at law—a large and influential party—have a direct pecuniary interest in breaking it, which we learn they propose to do on the plea of his incompetency. It is to be hoped the public interests in the matter will be seasonably attended to and ably defended.

As the will is apparently so judicious in itself, and so consistent with the benevolent and scientific character of the testator, we believe, but not for for those reasons alone, that he was mentally as well qualified to make a will as gentlemen of his extreme age usually are. At any rate, every friend of the agricultural interests of New England will rejoice if the will is established, and we should think the friends of the testator himself would rejoice to have his memory perpetuated in such laudable manner.

Mr. Hurd graduated at Harvard College with distinguished honor, in the class of 1797. In early life he was a merchant, but soon after the war of 1812 commenced, he retired from the hazardous pursuits of commerce to a farm which he bought at Stoneham, beautifully situated on the eastern shore of Spot Pond. To his original purchase there, he often added adjoining lots, until the estate finally comprised in all about 300 acres, including a water power at the outlet of the pond. On that estate he resided, in a secluded sort of manner, about twenty-five or thirty years, and distinguished himself as a liberal patron of every project calculated to improve agriculture or the arts. There he had a flock of Merino sheep, planted orchards and forests, quarried marble, drained the wet lands, built substantial walls, invented water wheels, kept a diary of the weather, &c. &c., usually keeping in his service from ten to fifteen persons. He experimented largely, especially with a view to economize heat, and made many improvements in cooking stoves, &c. "The Yankee Baker," so common twenty-five years ago, was of his invention. In fact, he was all the time experimenting about something, and appears to have been, in this respect, and in his general character, like Benjamin Thompson, otherwise known as "Count Rumford."

He experimented many years in the growth of sugar beets, and the manufacture and refining of sugar, and acquired more knowledge respecting that subject than any other person in *any* country. As a proof—he invented a way of refining sugar, for which he took out a patent, and sold it, without any exertion on his part, for the sum of $35,000. The fortunate purchaser acquired an immense profit by its use and the sale of patent rights.

Mr. Hurd was a bachelor, and during the last fifteen years of his life was away from Stoneham most of the time, residing in the winter at the Merchants' Exchange, in Boston: but of late years, (having sold his landed estate,) in a private way, at a tavern in Malden Centre, where he appeared to be kindly attended, and comparatively happy, but surrounded by people of a class who do not usually appreciate such characters, and who probably construed the meditative and solitary habits of the feeble old gentleman as indicating an unsound state of mind.

A class mate and friend says of him: "He retained, through life, the simplicity of childhood with the firmness of the philosopher. He was as independent in his own opinions as he was deferential to others. In respect to his deeper feelings he had great reserve. An unspotted life was his only religious profession." His remains were buried in Mount Auburn.—*Boston Evening Transcript.*

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The reason why peas, beans and clover rotate so successfully with wheat, is, that these crops draw comparatively very little silica from the soil, but leave it for the wheat.

## AGRICULTURAL MACHINES.

Every person who has taken an interest in agriculture during the past twenty years, and who has had opportunities of becoming practically acquainted with the many new and useful machines, and improvements on old ones, which have been invented and brought into use during that period, cannot but feel deeply grateful and highly elated with the results.

Twenty years ago, a good *plow* could scarcely be found from one end of the land to the other; now we manufacture, probably, the very best plows in the world. At that period a few *cultivators* had been brought into use, but the mass of farmers knew nothing about them; to-day such implements are known and employed by them all. Then some few *horse-rakes* had been introduced; but now no spirited farmer is without one. Some of our enterprising agriculturists had then commenced to use horse-power seed-planters, but of the existence of such machines, the majority of them were entirely ignorant. Not a single mechanical *hand-planter* was then employed; all such labor was executed by the hand and hoe—tedious and troublesome operations. Now hand-planters (a class of implements entirely of American origin) have become very common, and are among the most skillful and useful inventions.

Twenty years ago (although Hussey's and McCormick's patents were issued four years previously) there were not, we have been informed, more than four reaping-machines in use; now they number tens of thousands, and we have introduced them into Europe, where they are effecting a revolution in the harvesting systems of the Old World, as they have done in the New. Statistics now before us of two well-known reaping-machines, give the total number of 22,485 constructed in six years—from 1851 to 1857. We have not been able to obtain exact information on the point, but we are confident that this does not constitute one-fifth of the total number manufactured. In the State of Illinois alone, more than twenty thousand, we have been told, were employed last harvest; in 1840 not an acre of prairie had been swept by the blade of a solitary harvester. It would be an insult to the intelligence of our readers for us to add a single sentence in advocating the utility of such machines; but it affords us pleasure to quote the opinion of Mr. Mechi, the celebrated English farmer, in their favor, as a word of advice to his own countrymen. He says:—"A wise farmer will use a reaping-machine. I have done so for several years, and never had any trouble with mine."

Time and space would fail us thus to go on and comment on the rise and progress of every agricultural machine in use. We have been so far specific, to lead the reader to revolve in his own mind the grand results which have been achieved by our inventors within a few years, in improving those machines which lie at the very foundation of our national prosperity. It is now acknowledged, in a world-wide sense, that in agricultural machinery we stand first among the nations; and to this distinction we have attained, we can safely assert, in the short space of only twenty years. In view of these facts every citizen has certainly great reason to feel "deeply grateful and highly elated."

But is there no more to be done? Have we reached the climax in the use and construction of improvements in agricultural machinery? No, far from it. A great and mighty work has yet to be accomplished before we reach a position of satisfaction regarding the general use and application of such improved machines.

The most spirited and enterprising of our agriculturists only, have yet adopted improved machinery; their number, truly, is not small, but it is far from being large in comparison with the great mass, who still tread the old and beaten tracks. The great majority of our farmers have not yet come up to the sensible point of realizing the vast advantages that would accrue to themselves from the use of every machine that abridges their labor; they have not yet joined in the march of improvement by the adoption and use of all improved machines. We shall not feel satisfied until the good leaven has leavened the whole mass.

We have advocated the invention of durable and cheap portable machines, so as to bring them within the compass of every farmer's means, and great success has attended the efforts made to invent such; indeed, in this respect, our inventors have actually astonished themselves, as well as all strangers who have travelled in our country. There is no excuse now for the humblest farmer not using his best efforts to obtain labor-saving machines of all kinds for his purposes.

It has been estimated that two-thirds of our entire population are connected with agricultural pursuits. If the total number is now 28,000,000, (which cannot be far from the mark,) then no less than 18,000,000 of our people are interested in having the best agricultural machines that can be obtained. Every farmer who has an hundred acres of land should have, at least, the following: a combined mower and reaper, a horse-rake, a seed-planter and sower, a thrasher and grain cleaner, a portable grist mill, corn-sheller, a horse-power, three harrows, a roller, two cultivators, and three plows. How many of our farmers have such a list of agricultural machines? Only a small number, indeed, in comparison with the whole. To expect that a farm can be properly and economically cultivated and conducted without the use of a sufficient number of improved machines is presumption.—*Scientific American.*

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### SUN-FLOWERS A PREVENTIVE OF FEVER AND AGUE.

Whether the sun-flowers planted in a miasmatic situation will prevent persons who reside in the neighborhood from being affected with fever and ague or not, we personally cannot tell, but others who have tried the experiment have asserted "they will." Lieut. Maury, of Washington, through the columns of the *Rural New Yorker*, has given his views on the subject. He states that he made an experiment last year with the cultivation of sun-flowers as a preventive or protection against ague and fever. At the risk of spoiling a beautiful lawn, he made the gardener trench up to the depth of two and a half feet a belt about forty-five feet broad around the Observatory on the marshy side, and from one hundred and fifty to two hundred yards from the buildings. After being well manured from the stable-yard, the ground was properly prepared and planted in sun-flowers in the spring of 1856. They grew finely. The sickly season was expected with more than the usual anxiety. Finally it set in, and there was *shaking* at the President's House and other places, as usual, but for the first time since the Observatory was built the watchmen about it weathered the summer clear of chills and fevers. These men, being most exposed to the night air, suffer most, and heretofore two or three relays of them would be attacked during the season; for, as one falls sick, another is employed in his place, who, in turn, being attacked, would in like manner give way to a fresh hand.

As attacks of fever and ague were more than usually prevalent in Washington last summer, it would thus appear that the sun-flowers around the Observatory acted as preventives in reference to the watchmen. In view of this fact we would advise persons who reside in the neighborhood of marshes to plant a wide strip of sun-flowers between them (the marshes) and their houses. There is plenty of time for doing this the present season, and if it does no good it can do no harm. The theory of the sun-flowers acting as preventives of fever and ague is, "they absorb the miasma."

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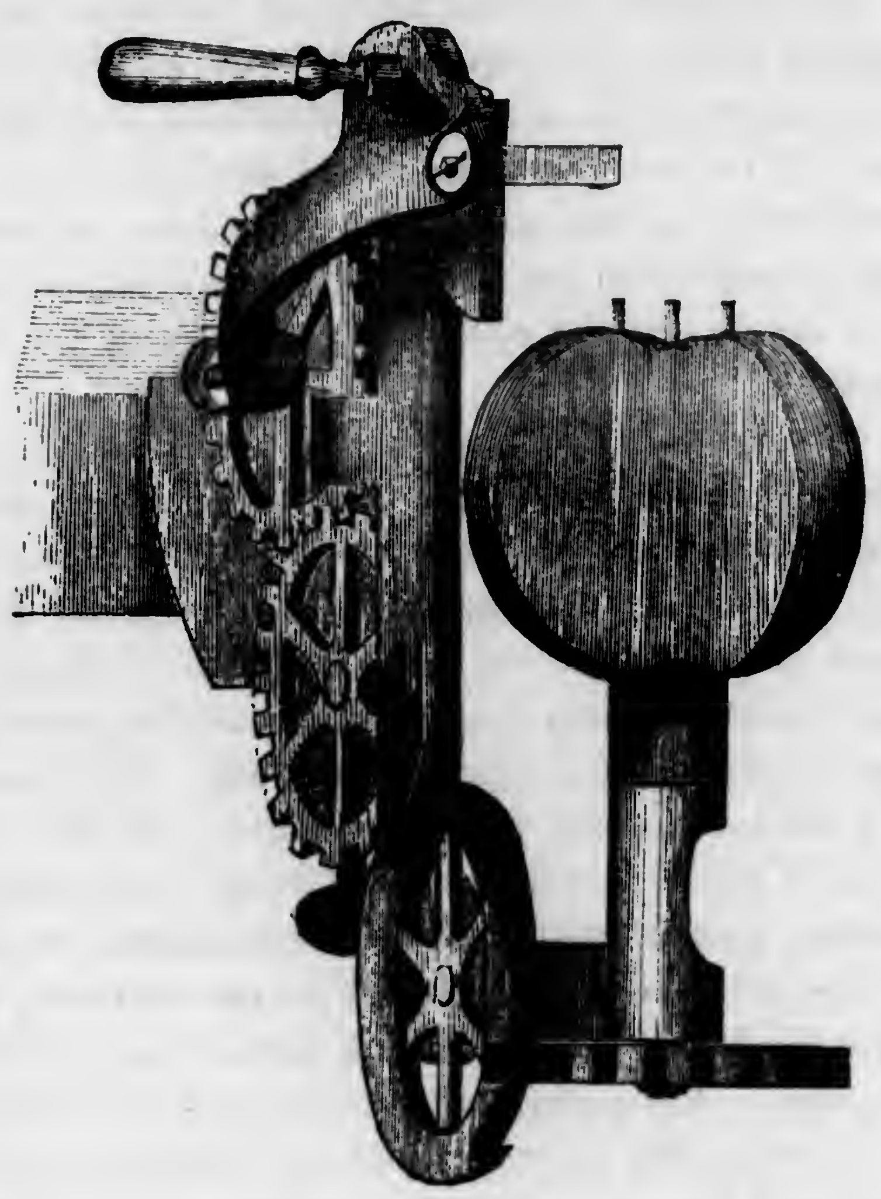
A letter just received from the Cape of Good Hope, says that an English settler at King William's Town had received two bales of wool, grown by the Tambookies, and shorn from sheep of their own breeding. This was the first arrival in the colony of wool grown by natives, and the occurrence was regarded as one of no little importance.

### PRATT'S APPLE-SLICING MACHINE.



The accompanying cut represents a machine for cutting or slicing apples, patented by E. L. PRATT, Nov. 11th, 1856.

Perhaps in no class of articles or utensils for family use, has as manifest an improvement been attained as in machines for paring and slicing apples.

Five years have hardly elapsed since a patent was granted the same party for a machine for paring apples. Such has been its popularity that many hundred thousand have already been manufactured and sold.

The old or hand method of paring fruit, which has held a venerable supremacy for more than three thousand years, has, in most parts of this country, been almost wholly abandoned.

The introduction of the Parer enables one person, or even a child, to accomplish as much labor as eight or ten persons by the old process. The introduction of the Slicer must prove equally advantageous, as, by its use, one person can slice, in a much better manner, eight or ten times as many apples as can possibly be done by hand. Such is the speed and rapidity with which it operates, that an apple can be sliced in twenty-two equal parts in about three seconds. This Slicer has been made expressly to accompany the Parer. It is strongly and handsomely constructed, sold at a small price, and when once used, must prove to the Parer a companion never more to be separated. They are to be had of P. MORRIS & Co., of this city.

### SALE OF SHORT HORNS.

We desire to call the attention of our readers to the extensive sale of MR. JAMES GOWEN'S Herd of Short Horns, consisting of Cows, young Bulls, and Calves, which have been bred with the view of combining the fine milking and easy feeding properties of the Durham breed. The sale takes place on the 10th inst., and we hope our enterprising farmers will avail themselves of this opportunity to replenish their herds.

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From Moore's Rural New Yorker.

### FARMERS' WIVES,

#### THEIR POSITION, QUALIFICATIONS, AND DUTIES,

BY MRS. M. P. A. CROZIER.

We would inquire whether, in the endeavor to elevate rural life, and particularly farm life, there is not danger that one element of success or of failure, will be overlooked or underrated, viz, the influence of Farmers' Wives? Belonging, as these individuals do, to the more independent class of rural society, their position from that very independence, is commanding, and their influence extensive. When, therefore, the standard of excellence among farmers' wives of a community is low, we may expect to see a correspondingly low standard among the remaining female portion of the neighborhood,—and from their influence in the home circle, a like low-mindedness and corruption of taste and moral sentiment, throughout the community.

The women of country neighborhoods have commonly been the telegraphic media of communication between different families, the business of the men confining them so closely much of the year as to forbid that freedom of neighborly intercourse which is enjoyed by their wives and daughters. This can properly be regarded as reprehensible, only so far as it conflicts with home or other duties, and is made the medium of small talk and scandal. Human beings, not less in country than in town life, require gratification for the social of their natures, and that, too, usually beyond what can be enjoyed at their own fire-side; it is not, then, unnatural that one woman should seek the society of another, and where nothing more elevating is encouraged, it is not unnatural that what might be rendered a source of great improvement, and noble enjoyment, a blessing to community at large, should be scarcely more than a tissue of common-place observations, mingled with detraction and a culpable inquisitiveness.

It is easy to see, in part, what would be the effect, if, when the ladies met for their customary visits, they should converse, not of the queer flowers on Jane Meig's new spring bonnet, Sarah Jones' spruce young beau of last Sunday evening, Mrs. Ashbury's proud city visitors, the quarrels of neighbor Scrogg's family, and the like; but of *Domestic Economy, the proper training of children, the physical law as relating to the human system, the influence of various habits upon health and morals, the elevation and duties of woman, Floriculture, Horticulture, and even Agriculture*, for it is not undesirable that farmers' wives should understand something of that science. True, this would call for study, observation and reflection, and this is precisely what would greatly tend to the ennobling of the womanly element of society, and through that every other, inasmuch as nobility is both contagious and hereditary; this, with the requisite degree of perseverance and energy, is precisely what is wanting to make of our little, homely dwelling-places very paradises of comfort and refinement.

The farmer's wife usually has at command more of the elements which contribute towards the perfection of the internal arrangements, and the surroundings of home, than most other women of rural life, but not always. How shall she be enabled to appropriate what she has, be it more or less, so as to produce the happiest effect, the greatest amount of enjoyment, both for her own family and for the neighborhood?

What qualifications will best fit her for fulfilling her duties as a farmer's wife?

In the first place, she must possess *good common sense.* No farmer's wife will prove a very efficient "help-meet" for her husband, who lacks this qualification. Want of judgment will lead her into egregious follies and mistakes. While her husband is, perhaps, laboring early and late to procure the means for the payment of honest debts, or it is necessary to use the most rigid economy to "make both ends meet," and to establish a permanent foundation for future prosperity and success, she will, perhaps, go to the store and incur a heavy bill for superfluities, with no thought as to how it is to be met, thus deeply embarrassing her husband, and discouraging his efforts to overcome existing obstacles; or she may insist upon his appropriating the means laid by for improvements, to her own personal advantage for the time being, and he, disposed to gratify all her caprices, will himself incur, for her sake, the risk of losing public credit; or, when it is difficult with him to keep up the supply of plain daily bread, she may, by extravagance or carelessness in her arrangements, double his expenses for the table. This leads us to speak of *economy*. The old saying is commonly very true,

> "A man may spare, and yet be bare
> If his wife be naught, if his wife be naught;
> A man may spend, and have money to lend,
> If his wife be aught, if his wife be aught."

There are few, if any, farmers in sufficiently affluent circumstances, to render economy in the household arrangements a non-essential; even if there were, it would still be wrong, by careless management, to allow of waste, and useless expenditure, for there are always those whose necessities now illy cared for, might be abundantly supplied from the overflowings of the wealthy. We are all stewards upon the earth and to whom much is given, of them will much be required.

We counsel no miserliness in providing for the comforts and delights of home. Let there be always enough; when it can be afforded, let much attention be bestowed upon those things which have a tendency towards refinement.

A careful, industrious woman, will be able to accomplish much in this direction, even with small means. With the odd half-dimes, and leisure moments which others would waste, she will be able to gather around her family, many sources of enjoyment and instruction. The amount wasted in the kitchens of some families, would supply them with newspapers, periodicals, and library reading enough to enlighten their understandings to a very high degree, and if that enlightenment had its legitimate influence, to render them in a corresponding degree happy. The amount wasted in fashionable apparel by some ladies, would be sufficient to surround their families with very many sources of delight and refinement, which they now imagine they cannot afford. When the mind shall come to be regarded with the degree of attention, with which the body now is, and the elevation of the whole being becomes as great an object of desire, as is now the keeping up of fashionable appearances, we may look for a great advance in the culture of the beautiful. The moral influence of pleasant surroundings is inestimable.—Make home beautiful, and you have done much towards securing your children from vice. The farmer's wife should be able to appreciate lovely things, and disposed to make home so.

One of the simplest and cheapest elements of domestic beauty is *neatness*. Devoid of this, the most extravagantly furnished apartments will be unpleasant. With it, the humble cottage may smile welcome to the weary husband and brother. One would much prefer to sit down to a simple meal, neatly served, than to the most costly viands prepared and presented in a slovenly manner. A greasy tablecloth, half-washed china, and unscoured knives are not particularly tempting to the appetite. A pine floor as dark with mud and grease-spots as though it were made of black ash, corners of the room filled up with accumulations of years, a stove that has no acquaintance with a stove-cloth, chairs, tables, and book-cases covered with a thick layer of dust, offer no great inducements to a husband of taste to spend a leisure hour at the home fire-side.

But neatness, though unquestionably an indispensable one, is not the only cheap way of rendering a home inviting. What a change may be made in the appearance of a room otherwise dark and cheerless, by the mere introduction of a vase of flowers! If you please, the vase may be only a common earthen pitcher, and the flowers simple wild ones from some neighboring field or forest; the effect will still be delightful. Let there be drawings, paintings, and statuary in your dwelling, if you can afford them, but do not neglect the flowers; those God-given treasures which spring up so abundantly on every hand, but which are none the less beautiful because abundant. Cultivate them around your dwelling; let Spring, Summer, and Autumn bring you a choice succession of these little blessings, not only for your own hearts to gather cheerfulness from, but to gladden the hearts of your neighbor and the wayfaring man. Should you feel inclined to reply, "I have no time for these things; my moments are nearly all occupied in more necessary duties;" we would then say, learn to *economize time*. One woman, no quicker in movement than another, will by her management be able to accomplish much more. She will "kill two birds with one stone." She will not take fifty steps where but twenty-five are necessary; when she repairs to her chambers to do her chamber work, she will not forget her dust-pan and brush, and when she has finished sweeping, have to make a journey down stairs on purpose for those articles. Much may be done in the arrangement of a house, to save a woman's time; but all do not have the privilege of planning their own dwellings, or of occupying those judiciously planned.

Much, very much, may also be gained by a habit of *order*. "A time for everything and everything in its time," and "a place for everything, and everything in its place," so far as possible, will save much confusion, and many leisure moments to the housewife. She who has certain days of the week for certain kinds of work, will not often be hastily doing her washing on Friday, her ironing which should have been done Tuesday, on Saturday, and leaving Saturday's mending undone, allowing the stockings to be worn another week undarned, and the children's aprons to be torn from top to bottom, from a small rent, which, if done at the proper time, would have required only a few stitches. She who knows early in the morning what is to be accomplished during the day, and at that time arranges her plans accordingly, will not often be annoyed after eleven o'clock with the perplexing query "what shall we have for dinner?" She who knows just at what hour the potatoes should be boiling in order

to be on the table at twelve o'clock, and is sure to have them boiling at that time, will be likely to hear no complaints from her husband that she is behind time, and no peremptory demand that supper shall be ready at five o'clock; while she who is in the habit of having her meals on the table at no particular hours, but allows any little circumstance to delay breakfast or dinner for an hour; whose pantry and kitchen have no particular arrangement, will be likely to have a weary, vexing time preparing a meal for a large family, and very probably have often to meet frowning faces around the board. So everywhere. No farmer's wife can fulfill her high calling without orderly habits. If the house is disorderly, the farm will be likely to be so too. The husband's efforts to have things around him nice and comfortable, will be liable to be discouraged by the confusion at his dwelling, and the community annoyed by the spectacle of a carelessly managed farm. It is not always certain that when you see fine fields growing up to weeds, fences broken down, gates hanging by one hinge, barn doors battered to pieces, and cattle only half protected from the cold winter, that you will find a filthy dwelling, and a slovenly housewife; and sometimes it may occur that such a state of things in the house, will be brought by mismanagement or slothfulness on the part of the husband; but such is a wife's influence, that it is possible that disorderly habits on her part, may produce the like in her husband.

But in order to keep each of the little springs and wheels of the complicated machinery of domestic life moving in its proper place, and at the proper time, a great deal of *energy* and *perseverance* are required. Spasmodic exertions will never accomplish the most perfect results. There must be in the family,

> "A long pull, and a strong pull, and a pull altogether."

There is another subject to which we would refer, in speaking of the duties of farmers' wives. Enjoying, as they do, the privilege of selecting from the great store-house of Nature a large variety of food, it is very desirable that they have the requisite knowledge to enable them to prepare for their families, wholesome viands; not poisoning the best blood of the land with an unhealthful diet. Let the farmers' wives study and obey the laws of health. In the country, where Heaven's breezes are the purest, where the waters fall from the skies unmingled with the smoke of the town, and fountains gush from the earth, sparkling with life, where the fields are broad and beautiful, let smiling Hygeia take up her abode, and bless the sons and daughters of the toiling farmer, and his intelligent and cultivated wife.

Granville, Kent Co., Mich., 1857.

## REARING OF CALVES.

The moment the calf is dropped, Nature teaches the cow to cleanse its skin by licking off the slimy matter with which it is covered; but if she shows any disinclination to it, this may be got over by sprinkling a handful of common salt over it, after which she will generally perform this necessary duty without farther delay. About an hour after the birth, it is a common practice, among many farmers, to give half a pint of lukewarm gruel to the calf, instead of the first milk, or "beestings," of the cow, which is then thrown away. This, however, is highly improper; for this first aliment of the newly-born animal is a strong and viscid fluid, of an aperient property which powerfully assists in discharging the glutinous fæces which have been previously accumulating in the intestines. It is also of a peculiarly nourishing quality, seemingly intended for the very purpose of early invigoration; and, as it is not fit for the purposes of the dairy, the calf should always be left for a few days with its dam.

When the calf is cleaned, and has begun to suck, the navel string should be examined, and if it continues to bleed, Mr. Youatt says—"That a ligature should be passed round it closer, but, if it can be avoided, not quite close to the belly. Possibly the spot at which the division of the cord took place may be more than usually sore: a pledget of tow well wetted with Friar's balsam should then be placed over it, confined with a bandage, and changed every morning and night; but the caustic applications that are so frequently resorted to should be avoided." Sometimes, however, when all appears to be going on well, inflammation suddenly appears about the navel, between the third and eighth, or tenth day; it should, therefore, be daily examined until all danger of that kind is past, and if any swelling of the part, accompanied by redness and tenderness, should appear, the tumour should be well fomented with warm water until it be dispersed; or, if the inflammation continue, then surgical assistance must be resorted to, or the disease may become fatal.

If a male, the animal should be castrated as soon as possible after a month has elapsed after its birth; for the longer that operation is deferred, the greater will be the danger attending it.

The forwarding of calves to maturity, whether intended to be reared for stock, or brought to an early market as veal, are objects of great importance in every point of view, and their treatment has necessarily called forth the ingenuity of the most intelligent breeders, for the purposes of developing and improving their natural qualities. *When meant to be brought up for stock*, the cows should be so managed as to calve down by the middle of the month of May at the farthest; as late calves will not be sufficiently grown to hardily stand the winter, and the earlier they are dropped in the spring the better will they be able to meet the inclemency of the season. Those, however, which are dropped in the winter, and housed during that inclement season, will thrive surprisingly by being turned into the succulent pastures of the ensuing spring. There are two modes of rearing them; the one, to allow them to run at large, during a year, with their dams; the other, to wean them after a few days or weeks old. Of these, when a farm contains sufficient rough pasture, the first is unquestionably not only the least troublesome, but is generally found to be productive of the best cattle, and in this manner a large portion of them are fed. It is, however, in frequent instances thought more prudent to reserve the milk for the purposes of the dairy, and then the calves must of course be weaned.

The *process of weaning* is variously managed by different farmers; but, whatever may be the plan which they adopt, they should never lose sight of the object of rearing the animal to perfection; which can only be properly done by affording it ample sustenance while it is young. They should recollect that the cow's milk, which is intended by nature for its support, contains a large quantity of the richest nutriment, and if the calf be deprived of that, it should have an equal amount of other nourishment; for, if stinted, it will assuredly grow up to be a gaunt and ill-thriven brute.

When not let to run with the cow, the most advisable mode as it regards the calf, is to place it loose in a crib, and to suckle it by hand with the mother's new milk, of which it will consume, for some time, not more than about four quarts per day: the quantity, however, must then be gradually increased, as it will, in the course of a few weeks, require as much as three gallons. If the weather be fine, it should be, within a fortnight or three weeks, turned out daily in the orchard, or some well-sheltered enclosure of sweet herbage, and as it will, in the course of ten or twelve weeks, have acquired some relish for the pasture, it may be regularly weaned by gradually diminishing the quantity of milk, and then substituting the skimmed for the new. Calves may, however, be reared with skimmed-milk and meal, without any portion of new-milk, except the first few days' beestings and many persons give them nothing but water-gruel and hay-tea, within a fortnight after they have been removed from the cow[*]. Hay-tea and linseed jelly are also very nutritious, and calves may be weaned on them without any other food[†]. We have heard of a farmer who, for many years, successfully reared a great number by taking them from the cow at about seven days old, then giving them skimmed-milk for ten or twelve days more, with a few turnips cut into small pieces, which they soon learn to nibble and eat, after which they were turned into a turnip field, without any farther care or trouble than carrying them a small bundle of fresh barley or oat straw every night and morning, laying it under the hedge which was most sheltered from the wind. He often turned them out in the month of January, yet he never lost any of them, and they all appeared in health and good condition[‡].

Various schemes have indeed been tried, with some success, for the weaning of calves without any, or at least with only a small portion of milk, and such plans are well deserving of trial, in all those places where that article is of general consumption. By many persons they are taken within three days from the cow, and are fed with lukewarm skimmed-milk and water, having a little bran or oatmeal in it, and by others with new whey along with meal. If weaned on skimmed-milk, the calves ought however to fall in December, or within a month of that time, and then be kept warm by housing. Heifers with their first calves are, however, exceptions; as such do not become good milkers if their calves do not suck the whole season: but with the second calf they are treated like the rest[§]. Treacle and linseed oil-cake—in the portion of half an ounce of treacle and one ounce of powdered oil-cake, mixed with a pint of skimmed-milk, properly incorporated, and given along with lukewarm whey, or hay-tea, have also been advantageously adopted; in the north of England they are, for the first four or five weeks, fed upon equal quantities of new and skimmed-milk, after which they are gradually brought to drink gruel, made of bean or oatmeal, mixed with one half of buttermilk. Besides this, in some of the southern counties, pot liquor is often given with good effect instead of gruel; and the following plan is successfully practised in North America, where it has received a prize from the Agricultural Society of Massachusetts:—

The calves, when three days old, are taken from the cows, and fed with barley and oats ground together, which is made into gruel—one quart of the flour being boiled during half an hour in twelve

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[*] Suffolk Report, 3rd edit. p. 208.

[†] Bath Papers, vol. v p. 465.—Linseed jelly is made by putting one quart of seed to six quarts of water, and allowing it to boil during ten minutes. Hay-tea is made by infusing such a portion of fine sweet hay as will fill an earthen vessel on being lightly pressed with the hand, and boiling water being poured upon it; the vessel is then closed, and in a couple of hours a strong liquor produced, which will keep good for a couple of days: it should be used lukewarm, and, if given without linseed, should be mixed during the first few days with three parts milk, to be afterwards reduced to one-fourth.

[‡] Bath Papers, vol. ii. p. 154.

[§] Sussex Report, p. 263.

quarts of water; of which one quart is to be given, lukewarm, to each calf, morning and evening. In ten days a bundle of soft hay is placed in the stable, which they will soon begin to eat, and a little of the flour is put into a small trough for them occasionally to lick. They are thus fed during about two months, gradually increasing the quantity; and it is said that half a bushel of the corn is sufficient until the calf is entirely turned to grass,-to which he is occasionally turned out during the day.

When the object of the farmer is to rear more calves for stock than he has cows, this has also been successfully practised by purchasing a stranger calf, and putting it along with her own to the same cow, both being put to suck, one at each side, exactly at the same time, and leaving them there for fifteen or twenty minutes, by which time the milk will be drawn away. The cow at first shows great dislike to the stranger, but in a few days receives it very quietly. They are thus kept in the house, and as they advance in age, they eat porridge, hay, sliced potatoes, or any food that is usually given to them, and in about three months they are finally turned out to grass; after which a couple of strangers are purchased, and the same plan pursued with them during three months longer. At the expiration of that period—supposing the cow to have calved in the month of January, or the early part of February—the first week in August will have arrived, and this set being then ready for weaning, a single calf is put into the feeding pen and fattened for the butcher: by which means the cow will have suckled five calves[*]. Mr. Lambert also says, in his "Observations on the Rural Affairs of Ireland," that it is not a bad plan for those who keep many dairy cows, when there is an indifferent milker, to put two calves on such, and turn them out to grass along with her; as the calves will extract more milk, and a cow that has but little milk being of a quality rich in proportion, will afford quite sufficient for two calves, when accustomed to the strange one for a week or ten days before being turned loose. The plan would probably answer for the purpose at first, but we should imagine that it must stint the future growth of calves.

These different modes are all more or less productive of economy in all the expenditure of milk, and, in most cases, have been found to forward the proper growth of the calf: much, however, depends on the regularity of feeding. The common practice is to give the food only twice a-day, morning and evening, and then to allow as much as will satiate the appetite; thus filling the stomach with such a quantity as must in some degree impede the digestion. Now, in every case, the closer we adhere to nature, the better will the animal thrive, and if allowed to remain with the cow, the calf will be seen to suck her frequently; he should, therefore, be fed at least three times a-day, at regular periods, by which means, and being allowed room for exercise, he will be greatly improved in health and condition: it being, however, understood that he is not then intended to be fattened. Care also should be taken not to change his food too suddenly; for, although the imperative calls of appetite compel him to forego that which is most natural to him, yet, having been once taught to adopt a substitute, he obtains a relish for it, and will not so readily accommodate himself to any other: which especially teaches the propriety of weaning him very gradually[†].

Whatever may be the process employed, it must partly depend on the state of the season when the calf is dropped, and in the case of being weaned on milk, it will probably occupy nearly four months; but the animal, if turned occasionally out, will begin to nibble the grass when about six weeks old, and may then, within two or three weeks more, be left to graze, until the season becomes wet and cold, when it should be brought, along with other younglings, into a fenced-off part of the farm-yard, where they should be well bedded, with sheds to run under, as lying wet, or having very wet land to lie upon, will incur the risk of some very dangerous disorders.

Their subsequent treatment must be, in a great measure, dependent on the nature of the land, and the sort of food which it can supply; for many mountainous stock-farms being wholly in grass, afford nothing more during the winter than a scanty supply of hay, and the yearling calves are again turned upon the rough pasture during the following summer, or until an opportunity offers for disposing of them to other feeders, by whom they are kept during the following winter, partly on turnips in the straw-yard, and afterwards either sold, as in-calf heifers, to the cow-keeper; as steers, for working stock[‡]; or, to the grazier, for being fattened. It is indeed a very common notion that, provided the young animals acquire bone and size, their condition is immaterial; and this, though perhaps not the most profitable mode of rearing, is yet the only one which in such situations, can be adopted: it, of course, generally repaying the breeder and the dealers, or it would not be continued. Where the farm, however, is of such land, and is so managed, as to supply an abundance of nourishment, the breed of the animals to be reared should be a prime consideration, never to be lost sight of; and we need hardly say that both sire and dam should be chosen, without regard to any other than imprudent expense, from the very best stock to be obtained in the county: unless, indeed, the main object being the dairy, the calves should be merely intended to be fatted for the butcher.*—*British Husbandry.*

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[*] See Youatt's Cattle, p. 170.

[†] See the complete Grazier, 6th edit. chap. vi.

[‡] On Working Stock, see vol. i. chap. vii. and the Training of Steers, p. 215.

## SEASONABLE HINTS BY DOWNING.

If you wish to raise the earliest vegetables, or get the best growth possible in an annual plant, be sure to use well rotted manure. The chemists may say what they please about the loss of ammonia and the gases, and what they say about the actual waste in letting manure rot before using it, is true enough, doubtless; but, setting that aside, practice has told me, time and again, that I can get a crop of peas four or five days earlier than my neighbors, in the same soil, by using a manure a year old, and *quite fine*, when they use it almost as fresh as when it first comes from the stable. The fact is, fresh manure is like corned beef and cabbage—very hearty food, but requiring a strong stomach. Annuals of moderate growth, like something easier of digestion. As all old gardeners know by this constant trial, you can no more beat the value of rotted manure out of their heads, than you can make an elder bush bear white berries by scolding it.

It is quite wonderful what a passion some men have for what *they* call *pruning* trees, and what I call murdering them by inches. Only put a knife or saw into their hands, and a tree before them, and you will see that it is only because they were not born Caliphs of Bagdad, that their neighbors have any heads left on their shoulders. Gardeners from the "auld countrie"—especially all such as have served their time behind a wheelbarrow—are mighty fond of this sort of thing. One of these "gintlemen" was lopping off and utterly despoiling the natural ways of a fine linden tree lately. When he was cross-questioned a little as to what he was about, ruining the tree in that manner, he replied, "Bliss yer sowl! I'm only a littin' the *hair* intil it!" But, in fact, many a better gardener than this Paddy—many a man who has done as good things in the gardening way in Great Britain, as can be done anywhere in the world—is placed in the same awkward fix when he comes into a country with a dry, hot climate like the United States. All his life-long has he been busy learning how to "let the air in" to the top, and keep the wet away from the roots, till it is a second nature to him, and he finds it almost as impossible to adopt just the contrary practice when he gets to America, as it is for a Polar bear to lay aside his long, white, furry coat, and walk about like a tropical gentleman in his natural nankeen pantaloons and waistcoat. He cuts away at his trees to let in the sun, and raises up his flower beds to drain off the wet, when it is just the very sun and drought that we have too much of. No man can be a good gardener who will not listen to reason, and in a country where nature evidently meant leaves for umbrellas, take care how you snap your fingers at her, by pruning without mercy, and "*littin' the hair in!*"

If you find some of your transplanted trees flagging, and looking as if they were going to say good-bye to you, don't imagine you can save them by pouring manure water about their roots. You might as well give a man nearly dead with debility and starvation, as much plum pudding as he could make a meal of. The best thing you can do is, first to reduce the top little more, (or a good deal more if needful,) for the difficulty most probably is, that we have more top to exhaust, than root to supply. Then loosen the soil, and water it if dry, and lastly, *mulch* the ground as far as the roots extend. This you may do by covering it with three or four inches of straw, litter, tan bark, or something of that sort, to keep the roots cool and moist, so as to coax them into new growth. Watering a transplanted tree every day, and letting the surface dry hard with the sun and wind, is too much like basting a joint of meat before the kitchen fire, to be looked upon as decent treatment for anything living. If your tree is something rare and curious, that you are afraid will die, and would not lose for the world, and yet that won't start out, in spite of all your wishes, syringe the bark once every night after sunset. This will freshen it, and make the dormant buds shoot out.

If you find any of your fruit trees barren, from too great running to wood, about the first of June is the time to shorten back the long shoots, and clip or pinch off the ends of the side shoots, so as to force the tree to expend its substance in making fruit buds, instead of wasting every bit of sap in over-growth.

Make war upon insects all this month, and especially at the end of it, as if it were the chief duty of man to destroy them, (there is no doubt about its being the chief duty of the gardener.) Tobacco water is your main weapon, and with a syringe or a hand-engine, you can, if you take them in time, carry such slaughter into the enemy's camp, as would alarm the peace society, if there is one among these creeping things. Slugs on rose bushes, or the green fly on plants, will make their appearance by thousands and tens of thousands, as the weather gets hot and the nights summery. The time to open your light artillery upon the "inemy," is very early in the morning, or just after sundown—the latter the better time, by all odds. Find out whether they "roost" on the under or upper side of the leaves, or nibble away at the tender points of the shoots, and shower them to the tune of "Old Virginny"—i. e., strong tobacco water. If your plant is of a delicate substance, mind, however, that you don't give *it* a fainting fit as well as the vermin. Always make the tobacco water by mixing some rain with it, for such plants, and, if you have had no experience in the matter, dilute and use some on a single plant before you undertake your whole border. After half a day, you can tell how it works, and act accordingly. What you want is, just strength enough to kill the insect, and not enough to injure the young leaves.

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* Even in this case, it is however said, that some breeds have whiter fleshed calves than others, and that the butchers judge of the color of the flesh by looking at the inside of the calf's mouth and the color of its eyes: but we should suppose, that this applies rather to the individual calf, than to the general stock arising out of any particular breed.

## HINTS JUST NOW IN SEASON.

Mr. William Saunders, in the *Horticulturist*, gives us the following excellent suggestions, which may now be put to the test:

A successful method of combating the *striped bug*, so injurious to the melon and cucumber tribes, consists in covering the hills with loose squares of glass. Four small wooden pegs are inserted in the ground, so as to inclose the *hill* of plants; a square of glass sufficiently large to cover them, is then laid on the pegs. This has been found as effectual in *scaring* the insects as the common contrivance of a small wooden box, without its defects. The plants are exposed on all sides to air and light, and the glass cover farther prevents the soil being consolidated by heavy showers.

Young plants should not be allowed to crowd each other in the seed bed. Thin them out, so as to give space for each to be exposed to light and air. It is better to transplant in a sheltered border for two or three weeks, to produce a mass of fibrous roots, and if then carefully lifted and set out, will immediately start into vigorous growth. Before planting, make a furrow, with a hoe, three or four inches deep, and plant in it. The raised sides of the furrow will protect the plants for a time, and the first hoeing will level the soil over the roots.

*Fruit trees.*—In former remarks on winter pruning, it has been suggested to prune very sparingly all those of luxuriant and thrifty growth; such will now require attention in picking out the points of all shoots that exhibit a tendency to luxuriance. This pinching process appears to be looked upon by many as a *fancy* species of cultivation only applied to dwarf pear trees. So far from being so, it is, practically, the most important subject to which the attention of fruit growers can be directed. By its means, they can induce fruitfulness in young trees, and keep them uniformly productive. It is economical, inasmuch as it is easier to rub off a bud than to saw off a branch, and when thoroughly understood and acted upon, branches are permitted to grow only when and where they are wanted. Fruit trees, when healthy, and growing in good soil, have a tendency to make strong, yearly shoots at the extremity of the branches, the lower buds on the tree remaining dormant, or producing only weak shoots. *Pinching* consists, practically, in checking, at an early stage of growth, these robust shoots, by breaking out their points; this retards their longitudinal extension, and causes a development of latent buds, producing short, lateral growths, which are the future fruiting points. Our most successful fruit growers are becoming convinced that this is the only method of securing full benefit from good cultivation; otherwise, manuring only increases wood growth, to be lopped off at the winter pruning.

## WINTER APPLES.

*To the Editors of the Farm Journal.*

Whilst casually glancing over a newspaper, lately, I noticed that at the last monthly meeting of the "Philadelphia Society for Promoting Agriculture," a member (E. M. Davis) produced some apples of ordinary winter varieties, such as "Roman-stem, Pearmain, Cider Apples," &c., which were then in a good state of preservation, accompanied by remarks as to the method taken to insure their keeping. As near as recollection serves me, the principal features thereof were the use of a portion of a dry, cool cellar, partitioned off so the light should be excluded—shelved in spaces of eight inches—with frames of open slat-work, to hold the fruit, so arranged as to slip in or out for convenience of handling, and upon the floor of the room fresh lime was spread until completely fallen, and as often as this occurred, it was renewed. At the time, he supposed he had twenty bushels on hand, the market value of which would be $6 per bushel.

The present appearance of the apple orchards in this section (loaded with blossoms) warrants the anticipation of a larger yield of this fruit than we have had for some years past, and believing that the dietetic value of well-preserved fruits, at such seasons as nature does not afford a fresh supply, is becoming more and more appreciated, I desire to present my own experience, as confirming that of E. M. Davis.

By means of a portion of my cellar, (and, unhappily, it is not a dry one,) partitioned off from the rest by plastered studding, from which the light is excluded, and shelved with tiers of board platforms, I have for years past mostly succeeded in having a successive supply of apples in prime order for the greater part of the year.\ At the present time, I have one variety of lady apple therein, in excellent preservation; have frequently had several kinds as late in the season; but last fall, owing to the drought, had not a usual assortment.

I have not used the lime intentionally; but this season, the usual receptacle of our potatoes not holding them, some were placed in the apple room; and, as is always my custom, sprinkled with fresh slaked lime as they were stowed away. The action of the lime may have been an additional preservative, and if perchance so, it is worthy of extended trial; but I believe the necessary desideratum is the maintenance of a low, even temperature, accompanied by exclusion of light. The portion of my cellar used is the north corner; at the time of my writing, the temperature is 51°, a cold storm prevails, and the thermometer out doors stands 44°. I think E. M. Davis stated his ranged from 34° to 48°. I do not know the minimum of mine; but during the severe winter, it was below the freezing point, as the potatoes were nipped. I doubt not the plan of open slat-work movable frames would be a great improvement over stationary shelving, both with regard to the better keeping of the fruit, larger quantity to be secured in space occupied, and convenience of access.

Now is the time the subject should claim the attention it merits by others, so as to be prepared for housing of the coming crop.

Respectfully, Clement Biddle.

*Birmingham, Chester Co., Pa., 5th mo.* 19, '57.

## EXPERIENCE AND IMPROVEMENT IN RAISING CORN.

Years past I have spread barnyard manure broadcast, ridged my land, then with a hoe dug holes, put in a single handful of compost, composed of bone dust, ashes, and plaster, about equal parts. My corn would come up and outgrow my neighbors; they would say at the last hoeing, that my corn was the best in the neighborhood. When we came to harvest it, it was not so. In drought mine would seem to suffer the most; in storms of rain and wind in the fall, mine would seem to blow down the most, when my neighbors' was eared altogether the heaviest. Noticing the above facts, I began to look at the whys and wherefores. When myself and neighbors would plow our corn stubble ground for oats, the following spring, I noticed that the roots of each hill of my neighbors' was almost twice as large as mine; now for the reason. When I dug holes for my compost, I removed, as a matter or course, the yard manure from under the hill, so that the roots of the corn would not reach out after food to nourish them, but cling to that little handful of compost, and there stop. Thus you see why the drought affected it so much more than it did my neighbor's, the roots clinging to that compost in a little clump; you see why the storms beat it down more than it did my neighbors', no roots reaching out every way to support it against wind; thus you see, when my corn had got the food from the compost, it stopped growing, and the consequence was the ears were not filled out. A Yankee can guess why the roots of my neighbors' hills the next spring were larger than mine were. I now say, if I am to have no more than two hundred pounds of guano, or ten bushels of wood ashes, or four loads of yard manure, I would spread it broadcast over the acre.—*Homestead.*

*Remarks.*—There is matter for reflection in the above extract. It is the practice of some farmers to manure their corn in the hill; the result, in most cases, may be just what is stated above, though mixing the manure through the soil is doubtless the true method of applying it to corn or any other crop. The more thorough the mixing, the better will be the result.

## STIRRING THE SOIL IN DRY WEATHER.

That frequent stirring of the soil is the cheapest and most effectual way of protecting crops against drought, is proved by the fact that a soil plowed or cultivated often in a dry time is moist almost to the surface, while land that is neglected, is dry to a great depth. Some farmers, from false reasoning, infer that if a new surface is continually exposed to the sun and air, the effect will be to dry the soil still more. But the atmosphere in the hottest and driest weather is more or less charged with moisture, to prove which we have only to present a cold surface to the atmosphere, as a pitcher of ice water, for instance, when the moisture of the air will be condensed and form large drops on the outside of the pitcher. By frequent stirring the soil, it is kept loose and porous, the air can penetrate to a greater depth, and coming in contact with the cold earth, is robbed of its moisture by condensation, in the same manner as in the example of the pitcher given above. The oftener the soil is stirred, the more new surface will be presented for action in the same manner; but when land is suffered to remain idle, a crust is formed on the surface, which is impenetrable to the atmosphere, and no such effect can take place. *Genesee Farmer.*

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It takes 5 pounds of corn to form one of beef. Three and a half pounds of cooked meal will form one pound of pork.

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GRANGER'S MAGIC
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PATENTED SEPT. 18, 1855.

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| Virginia, | 1856 | Alabama, | 1856 | New York, | 1856 |
| Pennsylvania, | 1856 | | | | |

The construction of this Mill, and which renders it superior to others, are these:—It grinds Corn and Cob finer, requires about one-half the amount of power of other Mills, and by the use of Friction Rollers at the base of the outer Shell, it prevents the fine teeth coming in contact, (which they do in other Mills); and after YEARS of use, can be repaired at an expense of $3.00, making it equal to a new Mill. It is not injured if worked when empty. These facts and the superior Castings, make this Mill, beyond all doubt, superior to all others.

For further information, apply to the manufacturers,

CRESSON, STUART & PETERSON,
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AGENTS FOR THE ABOVE MILL,
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INTENTIONAL SECOND EXPOSURE

**C. S. WAINWRIGHT'S FIRST PUBLIC SALE OF THOROUGH-BRED, NORTH DEVON CATTLE.** To be held at "THE MEADOWS," on the 17th day of June, 1857.

The subscriber intends holding his first Public Auction of North Devon Cattle, on the above mentioned day, at his residence "The Meadows," 4 miles north of Rhinebeck Station, on the Hudson River R. R. The animals to be sold will number between 20 and 25 head, males and females, from calves to full grown; all of which have been either bred or imported by himself, and have perfect herd book pedigrees. As a lot, he believes he may say with truth, they are fully equal to any ever yet offered to the farmers of the U. S. Among the number will be the imported bull May Boy, (71), and the imported cows Nonpareil, (924), and Moss Rose, (904).

Catalogues, containing full pedigrees, and all necessary information, are now ready, and will be sent on application to all desiring them. The subscriber will be happy to have gentlemen visit his herd at any time.

All the sale will be *bona-fide*, and no animals on the catalogue will be disposed of until the auction.

C. S. WAINWRIGHT,

May 2t. 'THE MEADOWS," near Rhinebeck, N. Y.

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**GREAT IMPROVEMENT IN RAILWAY THRESHING MACHINERY.**—Our powers are of the most durable pattern, the platform is longer than any other and has a covering of inch boards to protect the lagging, when these wear out any one can replace them at a trifling expense. The band wheel will go on either side of the power; the cogs of the pinions are chilled which prevents their wearing, and the power is mounted on two wheels by which it may be easily moved.

Our Threshers have the most durable iron cylinders yet invented, the teeth have never been known to break out; the boxes have self-oiling cups which insures the Journal to be always lubricated without wasting oil, this prevents all heating and consequent wear of the boxes, and is an invaluable improvement in threshers.

The small wheels and cog gear of the power are oiled by a similar arrangement. Our shakers are driven by the main band, and require less than half the power used by the ordinary method. The shaker pulley will fit on the horse-power and may be used for driving any machinery requiring a slow motion. Our two horse power with a pair of light horses and three or four hands, is capable of threshing 175 bushels of wheat or double that amount of oats per day. We warrant our machines to thresh clean, not to crack the grain, to be durable, and owing to the diminished diameter of the cylinder and the improved method of driving the shaker, to require less power than any other machine. The complete two horse machine will consist of a double railway horse power, a 29 inch iron cylinder thresher, a shaker, 30 feet of 3½ inch India rubber belting, fixtures, for hulling clover seed, a pair of hooks to fasten the thresher to the floor, a pair of self-feeding oil cups for the power, a wrench, tin covers for the oil cups and an oil can. Price $140 in York. With the one horse machine will be sent a 24 inch thresher and all the fixtures enumerated as above. Price $120 in York.

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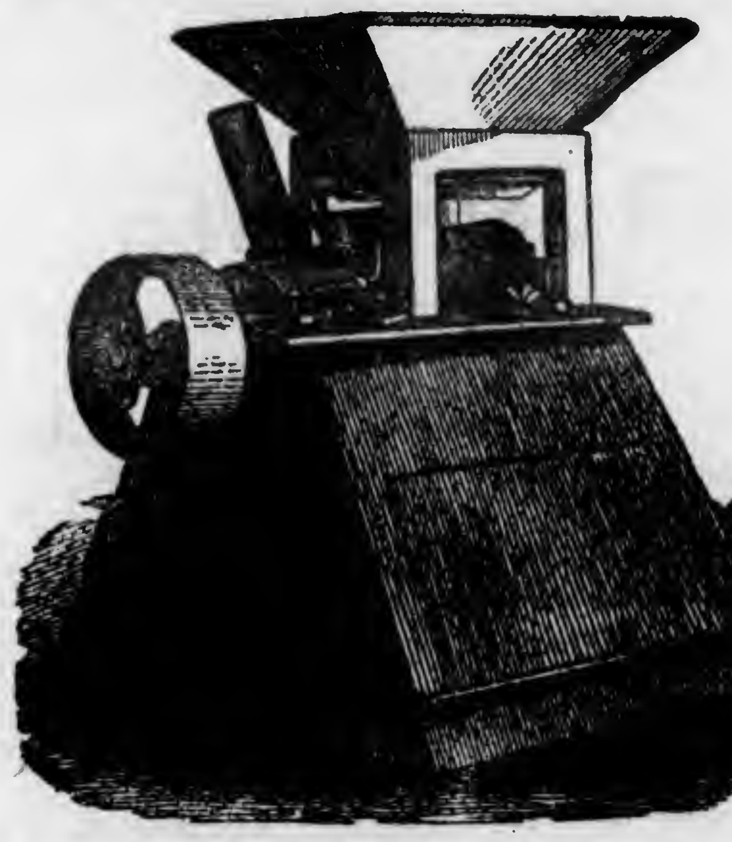

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**SHELLED CORN, WHEAT, RYE OR OATS,**

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| 1st | do. | do. | Berks do. | do. | do. |
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| 1st | do. | do. | Franklin do. | do. | do. |
| 1st | do. | do. | Salem do. | do. | do. |
| 1st | do. | do. | Cumberland | do. | do. |

☞ All Mills sold are warranted to give satisfaction. We are manufacturing three different sizes. Prices—No. 1, for hand power, $10.00; No. 3, for two-horse power, $50.00; for steam or water power, No. 4, $60.00. A liberal discount made to dealers.

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MANUFACTURERS OF WHEELER'S PATENT

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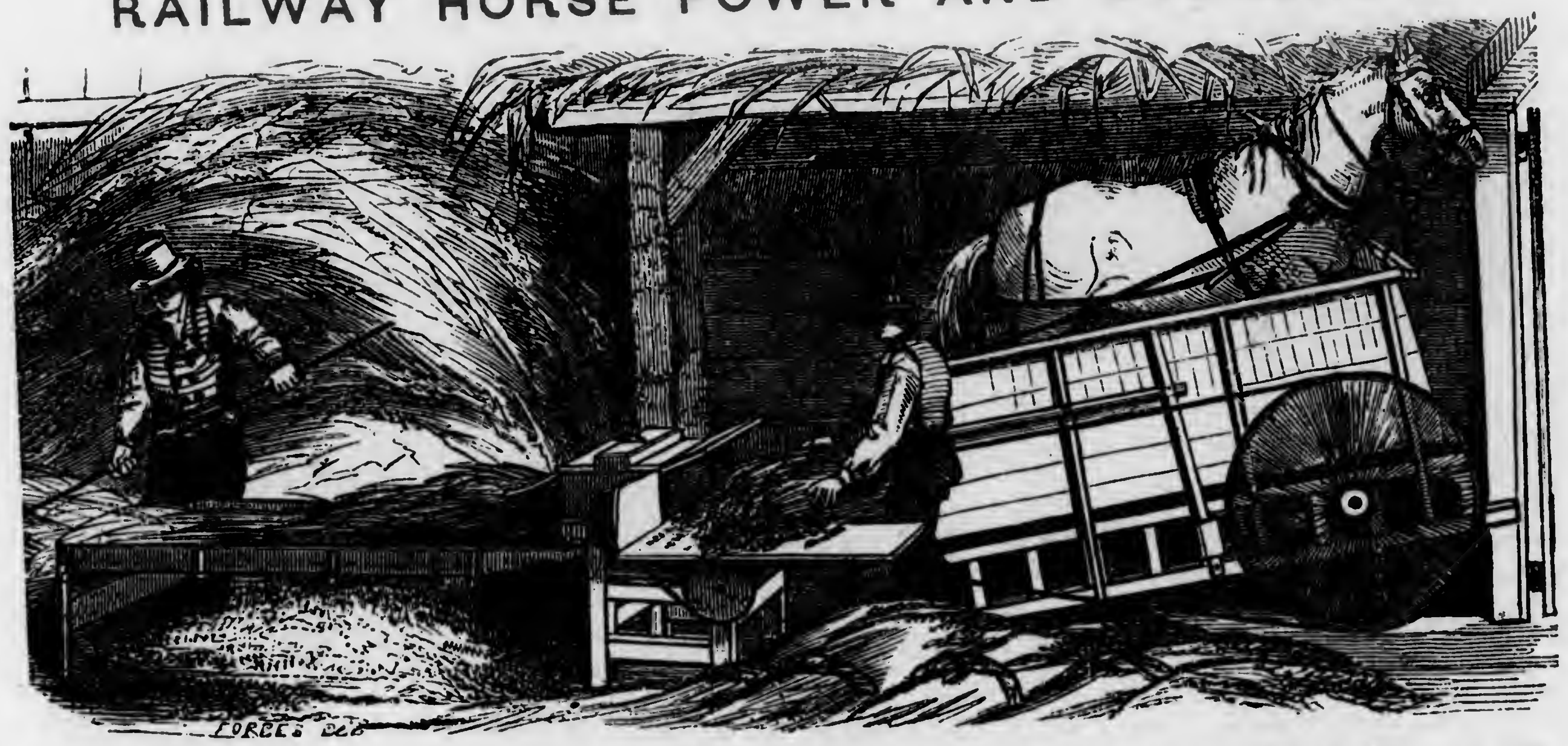

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A full description of these useful and beautiful hedges, with directions for planting, trimming, &c., will be cheerfully given by addressing as above.

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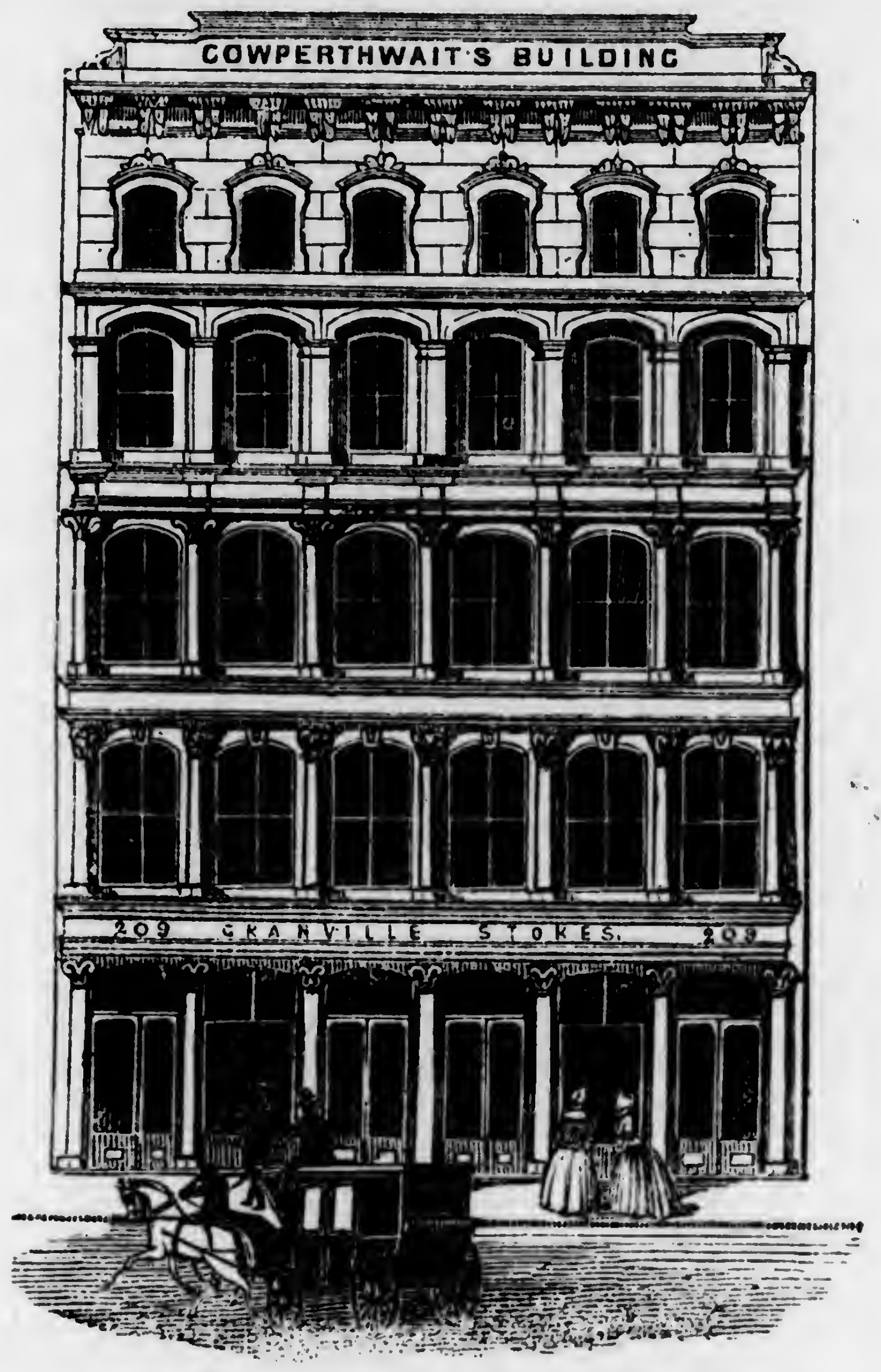

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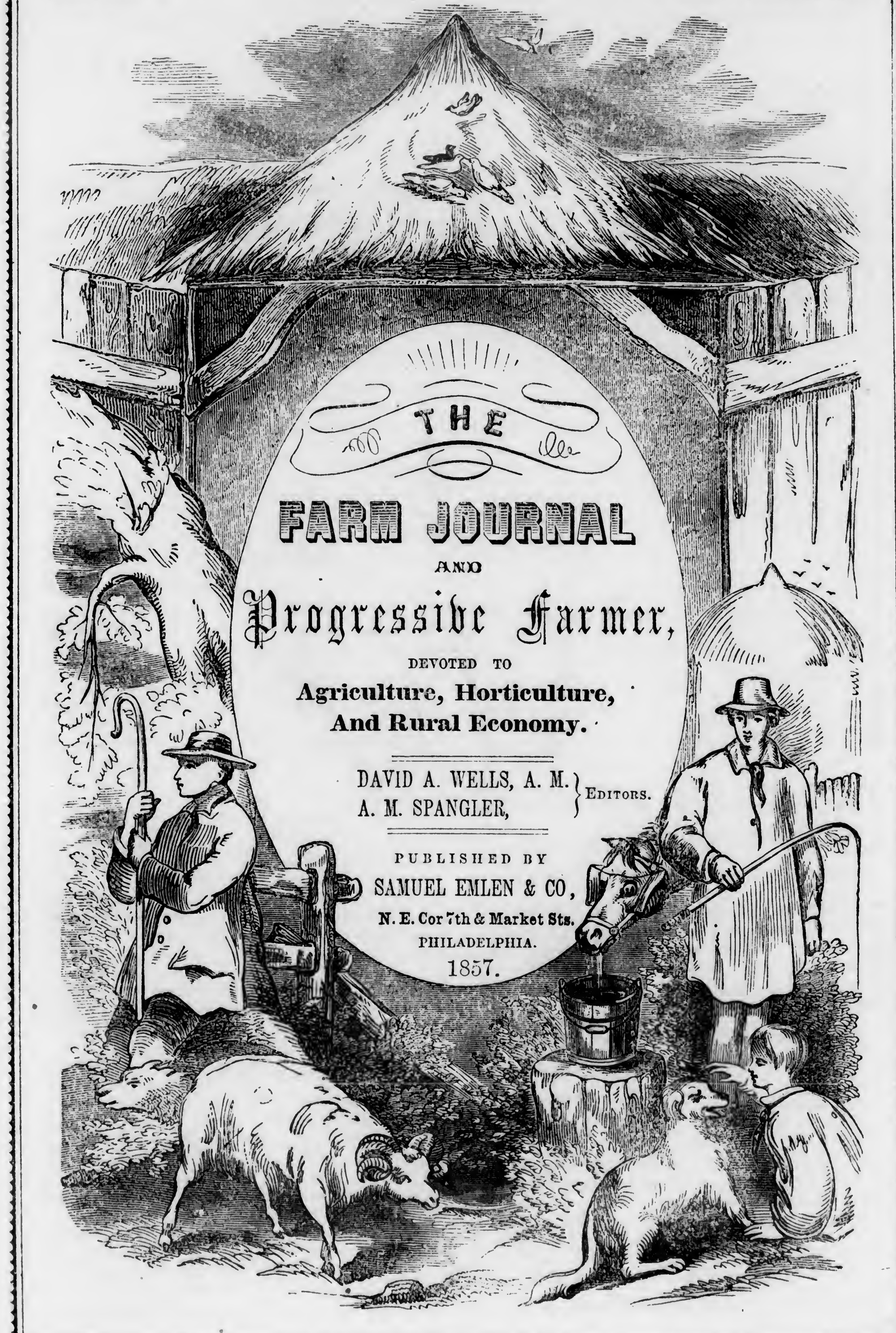

# THE FARM JOURNAL AND Progressive Farmer,

DEVOTED TO
**Agriculture, Horticulture, And Rural Economy.**

DAVID A. WELLS, A. M.
A. M. SPANGLER,
Editors.

PUBLISHED BY
SAMUEL EMLEN & CO,
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PHILADELPHIA.
1857.

HENRY B. ASHMEAD, Book & Job Printer, George Street above Eleventh.

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**THE FARM JOURNAL**

**AND PROGRESSIVE FARMER,**

*COMMENCES ITS SEVENTH VOLUME, JAN.* 1857,

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THE FARM JOURNAL

VOL. VII. PHILADELPHIA, JULY, 1857. No. 7.

For the Farm Journal.

### No. 4.

## ON THE DISEASES OF PLANTS.

BY HARLAND COULTAS.

*Vegetable Dropsy*, (ANASANCA.) We call dropsy the diseased condition to which woody plants become subjected, through excess of moisture, too abundant food, and want of light and air. The ash, fir, juniper, oak, and myrtle, are to this disease especially liable, under the above described conditions. Individual parts of these plants swell supernaturally, and either become putrid, or they take the most singular appearances, which may be correctly attributed to an arrest in their formation. The branch attacked by this disease is perfectly round and normal, as far as where the stoppage in the vessels is apparent; but it becomes suddenly, in this place, broad, flat, or disproportionately thick, of a softer texture, and shows on its outer surface a number of irregular excrescences, which accumulate irregularly, and are not formed out of buds. There is generally connected with these growths a preternatural curving and bending of the branch. As soon, however, as a more favorable change takes place in the vital operation of the plants, through access of light and air, together with the free exhalation of the superfluous water from the leaves, shoots are put forth from the mal-formed plants, round, and of a firm, healthy texture.

It is remarkable that this disease—at least in the myrtle—appears to be hereditary.

*Windy Disorder*, (TYMPANITIS.) Only in the herbaceous species of dicotyledonous plants, and in such as have bulbous roots, but particularly in those with hollow stems or shafts, does this disease ever find a place. It is to be attributed to an excess of moisture and richness in the soil, which produces a rapid upward growth of the plant. Similar deformities are occasioned, as in the previous disease, with this difference, that the preternaturally broad and flattened stem accumulate irregular buds, and contain air, instead of moisture. We call the stems misformed in this manner, ribbon-formed stems; and strike the same constantly in the perennial species of larkspur, crown, imperial, hyacinth, and lily, as also in the shoots of asparagus. It originates thereby, that owing to the rapid upward growth, the sap accumulates too much in the sound root fibres, and the excess of nourishment, has not time enough to form buds after one another. At a point a pressure together of the cells is effected, in which the organs to bud form; which themselves, generally at different points of height develop; they therefore necessarily become united into a species of monstrosity; wherefore also the vascular bundles which the different branches should form, grow together. This mal-formation disappears when the pressure of the sap is diminished.

### III. DISEASES OF THE RESPIRATORY SYSTEM.

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## THE FARM JOURNAL

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VOL. VII. PHILADELPHIA, JULY, 1857. No. 7.

For the Farm Journal.

### No. 4.

## ON THE DISEASES OF PLANTS.

BY HARLAND COULTAS.

*Vegetable Dropsy*, (ANASANCA.) We call dropsy the diseased condition to which woody plants become subjected, through excess of moisture, too abundant food, and want of light and air. The ash, fir, juniper, oak, and myrtle, are to this disease especially liable, under the above described conditions. Individual parts of these plants swell supernaturally, and either become putrid, or they take the most singular appearances, which may be correctly attributed to an arrest in their formation. The branch attacked by this disease is perfectly round and normal, as far as where the stoppage in the vessels is apparent; but it becomes suddenly, in this place, broad, flat, or disproportionately thick, of a softer texture, and shows on its outer surface a number of irregular excrescences, which accumulate irregularly, and are not formed out of buds. There is generally connected with these growths a preternatural curving and bending of the branch. As soon, however, as a more favorable change takes place in the vital operation of the plants, through access of light and air, together with the free exhalation of the superfluous water from the leaves, shoots are put forth from the mal-formed plants, round, and of a firm, healthy texture.

It is remarkable that this disease—at least in the myrtle—appears to be hereditary.

*Windy Disorder*, (TYMPANITIS.) Only in the herbaceous species of dicotyledonous plants, and in such as have bulbous roots, but particularly in those with hollow stems or shafts, does this disease ever find a place. It is to be attributed to an excess of moisture and richness in the soil, which produces a rapid upward growth of the plant. Similar deformities are occasioned, as in the previous disease, with this difference, that the preternaturally broad and flattened stem accumulate irregular buds, and contain air, instead of moisture. We call the stems misformed in this manner, ribbon-formed stems; and strike the same constantly in the perennial species of larkspur, crown, imperial, hyacinth, and lily, as also in the shoots of asparagus. It originates thereby, that owing to the rapid upward growth, the sap accumulates too much in the sound root fibres, and the excess of nourishment, has not time enough to form buds after one another. At a point a pressure together of the cells is effected, in which the organs to bud form; which themselves, generally at different points of height develop; they therefore necessarily become united into a species of monstrosity; wherefore also the vascular bundles which the different branches should form, grow together. This mal-formation disappears when the pressure of the sap is diminished.

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*Jaundice* is in principle the same disease. This arises from the same debilitating causes as those which produce the early fall of the leaves—one of the symptoms of this disease, and a sure proof that the root is either attacked by corruption, or the root-stock gnawed by worms and insects.

*To be Continued.*

## THE NATIONAL TRIAL OF AGRICULTURAL IMPLEMENTS.

*Correspondence of the N. Y. Tribune.*

ALBANY, May 30, 1857.

In pursuance of previous appointment, the Executive Committee of the National Society met in this city last evening. The use of the rooms of the New York State Agricultural Society having been kindly tendered, the Board were called to order at 7½ p. m. The Hon Marshall P. Wilder, of Massachusetts, President of the Society, assumed the chair. On motion of His Excellency Gov. King, Mr. Olcott, of the Implement Committee was appointed Secretary of the meeting.

The Hon. Frederick Smyth, of New Hampshire, moved that Col. B. P. Johnson, Secretary of the New York Society, be requested to take a seat at the Board as an honorary member of the same, and to take part in the deliberations, which was unanimously carried.

The Committee then proceeded to the appointment of the judges upon reapers, mowers, and such other implements as are to be tested at the National Trial, at Syracuse, in July.

J. Stanton Gould, Esq., of Hudson, N. Y., was unanimously elected Chairman of the Jury.

Messrs. Seth Scammon, of Maine; Brooks Shattuck, New Hampshire; Edwin Hammond, Vermont; Sanford Howard, Massachusetts; Stephen H. Smith, Rhode Island; T. S. Gold, Connecticut; B. B. Kirtland, New York; George Hartshorne, New Jersey; John Jones, Delaware; Francis P. Blair, Indiana; Fred. Watts and J. L. Darlington, Pennsylvania; Gen. J. T. Worthington and Wm. A. Gill, Ohio; Joseph A. Moore and W. L. Underwood, Kentucky; Joseph A. Wright, Indiana; Horace Capron, Illinois; J. C. Holmes, Michigan; Wm. C. Rives, Virginia; H. K. Burgwyn, North Carolina; A. G. Sumner, South Carolina; Richard Peters, Georgia; Lewis Worcester, Wisconsin; and Wm. Duane, of Iowa, were, upon motion of Gov. King, appointed as a Board of Judges, for the Trial at Syracuse.

B. P. Johnson, Esq., moved that Mr. Joseph E. Holmes, the General Superintendent, be added as a member, *ex officio*, of the Board of Judges—which was carried.

The following resolution, upon motion of Gov. King and seconded by the Hon. Frederick Smyth, was unanimously adopted:

> *Resolved*, That the proceedings of this meeting be presented to the Executive Committee of the New York State Agricultural Society, at its meeting at Buffalo in June; and that they be respectfully requested to appoint a Committee, and to invite the members of the Society to attend the proposed trial of Reapers, Mowers, &c., under the auspices of the United States Agricultural Society, at Syracuse, in July next.

Judge Gould adverted to the probable attendance of a throng of persons at the trial; and urged the necessity of enforcing stringent regulations for excluding all persons from the harvest fields during the examinations by the Judges. He also moved, and it was resolved, that there should be two separate premiums on Hay Presses, one for stationary, and one for portable presses.

The Chair called upon Mr. H. S. Olcott, Secretary of the Committee of Arrangements, to state what had already been done toward completing the preliminaries of the trial. Mr. Olcott stated that he had visited various cities and villages of Western New York, and had received liberal offers of pecuniary assistance and personal coöperation. Although quite equal to it, so far as suitable territory is concerned, none of the points seemed to present the advantages offered by the vicinity of Syracuse. Its position is central in the great agricultural district, and accessible by railroad to all parts of the United States. Its hotel accommodations are ample and excellent, the fields to be cut are in very close proximity to the city, and the citizens have generously offered to charge themselves with any excess of expenses over the receipts from entrances at the trial, should such occur. The Superintendent, Mr. Holmes, had visited the farms offered, and reported their entire suitability. That locality had, therefore, been selected for the trial of the present year, and approved of by the Executive Committee. A large number of machines had already been entered, among which were nearly all of importance in the country. Circulars, and pamphlets containing the premium lists, entrance fees, and some of the leading rules and regulations, had been issued and widely circulated; the trial had been extensively noticed and universally commended by the press in all portions of the United States; the local officers, such as Chief and Assistant Marshals, and various committees, had been appointed at Syracuse, and all necessary preliminaries had been completed.

Mr. Hammatt Billings, of Boston, had furnished an appropriate design for the grand medals offered by the Society, which was now in the hands of the engraver, and electrotypes would be ready to send to the principal papers in the course of a few days.

Colonel Johnson stated that he had just returned from Western New York, and was of the opinion that the trial could not be undertaken before the 20th July.

It was then voted that the thanks of the Executive Board be tendered to Col. Johnson for the use of the rooms of the New York State Society, and there being no further business before the meeting, it was adjourned sine die.

It will be seen, by reference to the list of Judges, that they are chosen from the most influential gentlemen of each of the States directly interested in the use of the Harvest machines. From the national character of the Society, and the preparations already completed for making the trial a thorough one, the result will be anxiously awaited by the Agricultural public.

Gov. King, who is Chairman of the Executive Committee of the United States Society, will endeavor to be present and receive distinguished guests from other States. Agricultural discussions will be held in the city of Syracuse on each evening during the trial.

## THE NATIONAL FIELD TRIAL OF REAPERS AND MOWERS.

It would seem from the efforts now being made by the committee of arrangements, the excellent opinions set forth in their report as to the manner of testing the relative merits of competing machines, and the rules and regulations which they have adopted, that our farmers may now look forward to the result of this *sifting* with a degree of hope that the awards will be some guide for them in the purchase of these expensive but indispensable implements. Now, nearly every farmer is in a quandary to know whose Reaper or Mower to buy—he hears such contradictory reports about them all, that if he purchases at all, he does it with fear—he hears, or reads in flaming advertisements of the hundred and one premiums a certain machine has taken, but he turns from it in disgust, knowing full well that a premium is nothing—that the awards of our Agricultural Societies generally, are not the result of actual trial, but of puffing and polish only. Here, however, is a committee of practical and wise agriculturists, who seem to be fully impressed with the great importance of their duties; and who say they offer the premiums, not as a pecuniary recompense to exhibitors for their trouble and expense, but as a mark of special honor for having earned an award after a thorough and protracted trial; the Society being convinced that a mere statement of the facts elicited by the judges is ample recompense for any trouble or outlay incurred by the owners or inventors of the various machines.

Comparatively few years have elapsed since these wonderful implements have been given to American Agriculture; and yet, so great is the demand for some mechanical contrivance which can supersede human labor in gathering our boundless harvest of grain and grass, and so fertile in novel ideas is the inventive genius of our mechanics, that at the United States Patent Office an examiner has been appointed, whose sole duty is the scrutiny of the claims of inventors of Reaping and Mowing Machines.

In the year 1852 the New York State Agricultural Society held a trial of Reapers, Mowers, and other implements, at Geneva, N. Y., which, for completeness in result and judicious management, has hardly been surpassed. Thousands thronged to witness the trial, and its influence upon the great interest of implement manufacture has been sensibly apparent. Since that time more than one hundred Reapers and Mowers have been patented, and with each succeeding year both demand and supply augment. It is, therefore, a matter of much importance to determine, before granting an award, which machine is really best adapted to its work, and a number of important features must be considered by the judges. Among these are, price; weight; power required; speed required or used; quality of work performed; general adaptability; nature of the ground passed over; strength and durability of material; nature and amount of draft; and simplicity of construction.

Each exhibitor will be required to produce his competing machine of no better quality than the average stock on sale at his warehouse; and to furnish, in writing, to the chairman of the jury of awards, a plain statement of the superiority claimed by him for his implement over others of a similar nature. We look forward with anxious hope, that this trial may prove worthy in every respect of those having it in charge, and that nothing may occur calculated to produce distrust in the minds of farmers as to the judgments arrived at.

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A ton of dry forest leaves produces only 500 pounds of mold; hence, 500 pounds of mold will produce a ton of plants.

## MINO, THE TALKING BIRD OF JAVA.

Wonders will never cease. How few persons have heard a bird talk in plain good English? We have all listened to Pretty Poll when she says, "good morning," but Pretty Poll has no command of language,—she is not an adept in etymology, syntax, or prosody—she cannot talk syllogistically, like the talking bird of Java—she cannot, like him, give three propositions—as for example:—"My name is Mino—Mino is a pretty bird—How do you do?" We are aware that the present Queen of England once had a parrot that said, "Good morning, Vic.," but never could pronounce the words, "Queen Victoria," and on account of an unfinished education was suddenly neglected, or turned over to the understrappers of Windsor Castle.

There is a talking bird now living in Modern Athens that has either been remarkably well educated, or has intuitively caught the true spirit of the literary atmosphere we are all permitted to breathe, and this bird talks common sense in good plain English. He is a rare curiosity, and we do not believe that our old friend Audubon would have sent a bullet though Mino's head, even for the sake of enriching his superb Ornithology with another beautiful specimen, especially if Mino had said to the distinguished ornithologist in his winning and good natured manner:—"Good morning, sir."

We saw the talking bird, Mino, at his home in Tremont street, No. 74, a few days since, and were much astonished and pleased. It is difficult to give an adequate description of him. He is about the size of the American crow-blackbird, although a trifle heavier. His length, from the tip of the bill to the end of the tail feathers, is about twelve inches. He has a yellow bill one inch in length. His plumage is remarkably beautiful, when it glistens in the rays of the sun. It is a very variegated purple and green. The wings are nearly black, with white bars near the ends. The feathers on the head are very short, fine and thick, and resemble the richest gloss of dark velvet. He has a long and beautiful lappel of bright yellow extending from each side of the back of his head to the nape of his neck; there is also a small yellow oblong mark on each side of his head. His legs and claws are yellow. His tongue is long, pointed at the end, broad in the throat and flat, thus differing from that of the parrot, which is round, short, and somewhat curved.

Mr. James Mann, the well-known taxidermist of this city, informs us that the Mino birds, so called, are natives of Java, and that they are rare even in that island; moreover, that they seldom talk. They have a great appetite, and will eat, voraciously, cooked or raw meat, bread, potatoes and fruit, although they appear to relish simple meal and milk. Mr. Mann possessed a Mino bird some years ago which could whistle, and imitate different sounds, but it could not pronounce words.

The bird Mino, in Tremont street, the property of of Mr. J. Chesley, has a fine tenor voice, and shows what may truly be termed intelligence. We have seen several persons looking admiringly at him, and have heard him say in the most distinct manner, after he has gazed intently, apparently listening to the conversation:—"My name is Mino." After waiting some time, as if he expected a compliment to be bestowed upon him, he has raised his beautiful head and proudly said:—"Mino is a pretty bird." If no person offers any words of praise, he jumps about his large cage a few times, turns his back to the astonished spectators, and indignantly and emphatically says, in a sharp tone:—"Go away!—go away!" He then gives a loud and hearty guffaw, exactly like the "ha-ha-ha!" of a human being. Of course, every person laughs at the droll bird, and the droll bird laughs again, and says:—"Good morning." When he sees his admirers disperse, he tells them in the plainest language to "Shut the door." If he is asked his name in an affectionate manner, he will immediately reply:—"My name is Mino—how do you do?" When he hears several persons conversing earnestly together, without taking any notice of him, he exclaims:—"What are you talking for?" The words are so suddenly spoken, and the sound so closely resembles a human voice, that one is really inclined to reply that it is none of your business! But Mino is polite, well educated, and very amusing, although he is vain and is fond of flattery.

Every phrase that we have given we heard Mino speak in the course of fifteen minutes; he could probably be so taught to extend his knowledge of the English language, that he could do all the talking at the next session of our Legislature for nothing, and thus save considerable money to our tax-paying citizens. It is a fact that, when he is in the humor, he speaks the Malay language, *sotto voce*, and apparently for his own gratification. We hope that Mr. Elihu Burritt, the learned blacksmith, will listen to Mino's foreign lingo and give us a translation of it, for, mayhap, some long lost lines of an ancient poet may yet be preserved to us by this very remarkable bird. He certainly manifests a certain degree of intelligence. He apparently takes pleasure in listening to ordinary conversation, and has extraordinary imitative powers. If we had the enthusiasm of an Audubon, Wilson, Buffon, Cuvier or Gould, we should place this bird in a rank above all other birds. His owner, Mr. Chesley, who will be pleased to show his pet to the

public who choose to call, has refused one offer of five hundred dollars for him and another offer of six hundred. The Mino lives to a great age, and is said to be the only bird amongst the five thousand species known in the world that talks from the *lungs* and perfectly imitates the human voice.—*Boston Evening Traveller.*

## THE SPRING BUSINESS—AGRICULTURE vs. TRADE.

The condition of business in the great marts of the Atlantic coast continues to be quite unsatisfactory, and is declared to be duller than in any spring for the last seven years. In the Western cities there has been a temporary improvement within the past two weeks, consequent upon the rise in price of produce, and the disbursement of a large amount of money by the great numbers of emigrants arriving there.

The complaints of the present season are not caused so much by the deficiency of business as by the redundancy of traders, and the over supply of manufactured articles furnished by the improved machinery which has been brought into operation within a few years. These are altogether disproportionate to the agricultural products of the country.

While there is but little danger of any serious breakdown in the general business of the country, we cannot fail to have a comparatively long period of inconvenience, disappointment, and embarrassment, until the relations of various interests of labor and capital gradually become adjusted to each other. It is easy to induce men to leave the isolated life and the small gains of agriculture, for the excitement, the adventure, and the delusive hopes of trade and city life; but stern and long-continued necessity is needed to induce them to leave the social excitement and the speculative business of the cities, which are continually tempting them with apparent opportunities of acquiring a fortune, though all these have, over and over again, been proved as delusive as the chances of drawing the highest prizes in a lottery.

The spirit of enterprise in our people is stimulated by free institutions and an unbounded extent of new lands, the price of which, for the *ownership*, is only a small per centage of the *yearly rent* of lands in the populous countries of Europe. Hence it is that our enterprise lacks system and regulation, that our markets are so uncertain and fluctuating, and our industrial development is forced too rapidly, at an immense and unnecessary waste of life and health, as well as of money.

We cannot look for any substantial and permanent reaction, till larger amounts of capital and a much greater number of energetic young men are withdrawn from other pursuits and concentrated upon agriculture. Time will effect this; but it will be a slow work; for ambition and energy will not readily give up the dreams of wealth and luxury with which they indulge in the cities.

To the man of superior judgment and great energy of character, agriculture does not offer, of course, so good an opportunity for the acquisition of a fortune, as commerce, manufactures and the mechanic arts; but there is a certainty of the acquisition of competency in agricultural employment, and an unlimited field for its operations, so that not one in a hundred who embark in it need fail of success; while in other avocations the field will only allow of a limited number, and is always likely to be so crowded with competitors, that in the end the condition of the great body of people devoted to them is reversed, and not more than one in a hundred is successful, while the majority of them are disappointed, and struggle on poor and unhappy, in a precarious and perplexing business, till death closes the scene.

As a general rule, all business which offers sure and permanent employment to great numbers of people, gives but a moderate remuneration, while occupations in which but a limited number of people are required, are very fluctuating and uncertain, the amount of income, sometimes, and to some persons, being extremely profitable, and at other times and to other persons, offering no employment or reward. If the profits of agriculture were averaged among all the people employed, there is no doubt the sum of profit accruing to each individual would be larger than that obtained by those engaged in commerce and manufactures, though in the last named branches of industry, the remuneration is very unequally bestowed, and for a few large fortunes there are many toiling in disappointment, anxiety and poverty, and losing entirely fortunes inherited or gained in other and previous pursuits.

The general depression in commerce and manufactures at the present time, and the active demand and high prices for almost all great agricultural staples, offers an excellent opportunity for the profitable transfer of a large amount of capital and labor to the cultivation of the soil. Agriculture might at all times be made much more profitable, if the same amount of systematic discipline, active energy, and proper outlay of working capital were conjoined with it which is required in other branches of industry. In manufactures and commerce, the most successful and the shrewdest capitalist is closely watched by all engaged in the same business, and becomes a pattern for each one to use the utmost efforts to follow. In this way industry energy and skill are excited to emulation, and tasked to the full extent, often achieving unlooked for wonders. In agriculture there is but very little of this emulation, and the profits are much less than they would be if the farms were managed with the system, the closeness of calculation, the vigor of action, the watchfulness of markets, and the appropriation of adequate capital, without all of which every one knows it is in vain to look for profit in the pursuit of other branches of industry.—*Boston Traveller.*

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## THE FARMER'S LIFE.

The following extract from the address delivered by the Hon. M. Saltonstall, before the Essex county (Mass.) Agricultural Society, descriptive of agricultural pursuits, will be appreciated by every virtuous mind :—

Agricultural pursuits in the open air, in the pure breath of heaven, and amidst the works which God has made, have the most purifying and elevating influence on the heart and mind. Who that has a heart in his bosom, can look abroad on our hills, crowned with trees, our pastures covered with flocks, on our valleys and plains, laden with food for " man and beast," and not think and feel how good God is? Who can behold the meadows ornamented with flowers, and reflect that the wide-spread prairies, the solitary wilderness, nay, the whole earth is strewn with an infinite variety of those most lovely objects, arrayed with more beauty than was Solomon in all his glory, and his heart not be softened into a sense of that boundless love, which has made such provision for our enjoyment, and for the gratification of a pure and refined taste? Who can see the sun rising in his glory, as all good farmers are wont to do, or can behold him sinking in his gorgeous pavilion—who can look upon the magnificent heavens, which can only be seen in the country, and not feel awed into reverence before Him who made all and exclaim as did the shepherd of Israel—" When I considered the heavens, the work of thy hands, the moon and stars which thou hast ordained, what is man, that thou art mindful of him, or the son of man that thou visitest him?" Who can listen to the " charm of earliest birds" as they dart from their nests and mount the topmost sprays at dawn, and not join their notes of grateful praise to Him who notices the sparrow's fall, and whose providential care extends to all his works? And where shall we learn our dependence on divine providence so effectually, as in an occupation where his visible presence seems manifest, in his imparting the influences of the sun and of showers in such succession as to crown with success the labor of our hands—who withholds the needful blessing only so long as is necessary to make us feel, that " it is God who giveth the increase."

Farmers of Essex, you cannot render a greater service to your country, than by disabusing the public mind of any prejudices which still remain as to the true character and influences of your pursuits.

> " Such themes as these the rural Maro sung
> To wide imperial Rome, in the full height
> Of eloquence and taste, by Greece refined.
> In ancient times, the sacred plough employed
> The Kings and awful fathers of mankind;
> And some, with whom compared, your insect tribes
> Are but the beings of a summer's day,
> Have held the scale of empire, ruled the storm
> Of mighty war; then with unwearied hand,
> Disdaining little delicacies, seized
> The plough, and greatly independent, lived."

◆

The Grand Trial of Agricultural Machines, under the direction of the National Society is advertized to take place at Syracuse between the 6th and the 13th of July. The circular gives assurance that the trials shall be varied and thorough, each machine being impelled by the same team or power, while the absolute test of the dynanometer or power-measure shall also be applied. Two experts shall be employed to bind the grain cut by each machine; and they shall not know which grain has been cut by the respective machines, (except so far they may be enabled to infer from the appearance of the stubble, position of the harvested grain, &c.) The farmers of the vicinity of Syracuse have made liberal proffers of farms, &c., for the accommodation of this Fair. After thorough testing, Grand Gold Medals will be awarded respectively to the best Reaper, the best Mower, and the best combined Reaper and Mower; large Silver Medals to the second-best Reaper, Mower and combined Reaper and Mower; as also to the best Automaton Rake, Clover and Grass-seed Harvester, Hay Rake, Tedding Machine, Hay or Cotton Press and Hay-Pitching Machine; with Bronze Medals for third-best Reaper, Mower, Reaper and Mower combined; also for the second-best Rake, Tedding and Hay-Pitching Machines, as also for the best Grain Cradles, Hand-Rakes, Forks, Scythes and Snaths.

We trust that no efforts will be spared to render this trial thorough and satisfactory, and we exhort all inventors and makers of improved implements to be represented therein. Let us see who shrinks from the ordeal. Letters of inquiry may be addressed to H. S. Olcott, Sec'y Committee, Mount Vernon, N. Y., or to Joseph E. Holmes, Superintendent, Newark, Ohio.—*New York Tribune.*

## POLITICAL ECONOMY.

### CHAPTER II.

*Disadvantages of Division of Labor—Productive and Unproductive Labor—Productive and Unproductive Capital—Fixed and Circulating Capital—Divisions of Wealth—Different Departments of Production—Transmutation, Transformation, and Transportation—Commerce Facilitates and Stimulates Production, etc.*

Having in a previous chapter* enumerated the many great advantages of division of labor, we now proceed to notice some of the disadvantages incident to it.

1st. The system does not give full activity and development to all the functions of the body, and therefore tends to enervate the laborer. When an individual is employed upon a single operation, and that of such a nature as to call for the use of but a small part of his muscular powers, and that part necessarily taxed to its *ne plus*, while all the rest are left with little or no exercise whatever, the consequence must be that the physical system generally will be impaired. Those parts of the body disused must to a considerable extent lose their normal and vigorous action, and sooner or later, the person so employed will find himself much indisposed and disqualified to engage in any other effort than that to which he has long been accustomed.

2d. This system does not give full employment and expansion to all the powers of the human mind.

This follows from the same course of reasoning we have used in regard to the body. The mind, in all its faculties, needs active exercise in order to its complete development and preservation, as much as the body. It must therefore be true, that when for the greatest portion of life, the mind has been continuously devoted to a single, minute, unvarying operation, until that operation has become so monotonous and mechanical, as to demand almost no mental effort whatever, the faculties generally must deteriorate. The difference between a population that had been employed under this system, and one that had been engaged in diversified occupations, would, in any great emergency like that of war, or the pioneer settlement of a new country, be greatly in favor of the latter; especially would this be true of a people that had for several generations, been employed in this manner.

3d. Division of labor tends to impair health, and shorten life. If what we have previously stated be true, such is the inevitable result; but as we propose a more extended examination of the influence of occupations on health and longevity in another place, than would be pertinent here, we pass to the last consideration, viz. :

4th. This system lessens the number of those who do business on their own account. The person who makes only the tenth part of an article, must of necessity be in the employ of another who is engaged in manufacturing the whole of it. This tends to bring great numbers, often hundreds, into the employment of a single house, or firm.

Now each of these employees, to a greater or less extent, is dependent on the person to whom he sells his services. He can have neither the responsibilities, nor the independence of position, which attach to one who is self-employed. As a general fact, too, he will receive only wages, and have no share in the profit of business. This necessarily tends to create greater inequalities of wealth, than would otherwise exist. That this, other things being equal, is a disadvantage to the individual, and to society, is unquestionable; and to the extent of its effects, whatever they may be, is to be regarded as an evil incident to the system, and in making up our estimate, is, like the other unfavorable circumstances we have mentioned, to be deducted from the many and great advantages we have seen to be afforded by division of labor.

We now pass to the consideration of another topic much dwelt upon by writers on political economy, viz. :

### PRODUCTIVE AND UNPRODUCTIVE LABOR.

I. *Productive labor* is that which brings a value, or compensation to him who performs it.

II. *Unproductive labor* is that which results in nothing valuable to the laborer.

### I. PRODUCTIVE LABOR.

That the *farmer* is a productive laborer, all will admit. So must the *mechanic* be, then, who makes the plow which aids the farmer in production, and the *merchant* or *trader*, who assists both in obtaining their materials from different and distant places, or in disposing advantageously of their products. They are alike joined in production. The farmer would get on badly without the aid of tools and implements; the mechanic could not live without the produce of the farmer, nor the merchant have the means of subsistence, but for the wants of both which he supplies. The *teacher*, whose instructions qualify the foregoing producers for the more intelligent and efficient performance of their labor, must certainly be entitled to rank with them. The *inventor* of useful machines and improvements of every kind, must be reckoned amongst the most productive of laborers. Whitney, Arkwright, Fulton, Morse, and their compeers, have they not contributed as much to the production of wealth, in proportion to their numbers, as any other class of men whatever? The *minister of religion*, if his teachings make men more honest, truthful, temperate, and industrious, more judicious in the application of their labor to proper objects—does he not assist in the creation of national wealth? The *physician*, whose advice and prescription preserve the health, and prolong the life of the laborer—is he not of the same class?

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* For chapter i., see " Merchants' Magazine" for March, 1857, (vol. xxxvi.)

Must not the *lawyer*, too, be placed in the same category, so far as his services are needful for the protection of the rights and interests of those engaged in production? That the man who makes musical instruments is a producer of values, none will probably deny; but if so, where shall we rank the musician, without whose instructions the instruments themselves would not be wanted? Even the player or opera singer may have credit for stimulating production, if, in order to enjoy his performances, others are incited to greater efforts to create the value wherewith to reward his services. The persons engaged in them do furnish that for which others are willing to give a valuable consideration; and although their labors result in nothing material, or permanent, yet they cannot, on any sound *principle* that we can discover, be distinguished from other laborers.

### II. UNPRODUCTIVE LABOR

Is always the result of mistake, or misdirection. No man, no community ever labors for that which they know, from the outset, will result in no valuable returns. A man may expend many days' labor on a machine, which, when completed, will have no possible utility, or desirableness, and will of course exchange for nothing. This is unproductive labor undoubtedly; but it is in consequence of miscalculation. So of the miner, whose labors are rewarded with no valuable discovery; so of the State which creates a canal, or other public work, which, when finished, is of no manner of use, and has no value.

But at this point it will undoubtedly be asked, does it make no difference to the wealth of a community in what manner its labor is employed, and to what object it is directed, or what proportion of its population are engaged in the different pursuits of industry? We answer—certainly, the greatest possible; for the prosperity of every nation depends upon the character of the object on which its labor is bestowed—but this topic, *one of the most important in science*, comes more properly under another of its general divisions, viz., the *consumption* of wealth. We shall there have the fittest occasion to show the great difference to national wealth arising from the *productive* or *unproductive consumption of its labor;* or the wealth that employs labors.

### PRODUCTIVE AND UNPRODUCTIVE CAPITAL.

We have before defined capital as that part of wealth employed in production. Productive capital, as the term imports, is that part of wealth actually employed in the creation of values. While so employed it is regarded as productive, whether yielding little or much. When it ceases to yield anything, it is called—

### UNPRODUCTIVE CAPITAL.

Money hoarded, factories unoccupied, ships dismantled, farms uncultivated, and all things of like character, are designed to be used in production, are adapted to it, and therefore, when unemployed, are regarded as unproductive capital—although, as our definition of capital is "that part of wealth employed in production," they might not seem to be strictly entitled to be considered as capital at all, but only as unemployed wealth. They are, however, classed as unproductive capital. All capital, like labor, is designed to be productive to the owner; when it is not so, it is owing to some miscalculation or adverse circumstance. When this happens, it is changed, as soon as practicable, into some other form of wealth—as, for example, if a factory had, from any cause, become hopelessly useless as such, it would be converted into dwellings, or warehouses, if that were practicable; or the materials constituting the same would be taken down and used for any purpose of which they were susceptible. It may so happen that capital may not only be unproductive, but so employed as to be destructive of wealth. For illustration: if a ship should be sent on a voyage, the whole expenses of which were $20,000, and at the end of the voyage it appeared that her earnings were only $10,000, it would be seen that she had not only not earned or produced anything, but had actually consumed $10,000 of capital previously existing. In such a case the owner will either lay up his ship, or employ her in some other trade that promised to be more successful. From this view of the subject we see that there can be no such thing as permanently unproductive capital; for, as the use of it in whatever manner, necessarily involves a risk, greater or less, no one will long employ a part of his wealth as capital, unless it yields him a profitable return.

### FIXED AND CIRCULATING CAPITAL.

1. Fixed capital consists of every description of property employed in production, which, from its nature, cannot be advantageously changed to any other use than that for which it was originally designed. The land, buildings, and tools of the farmer; the ships and warehouses of the merchant; the machines and implements of the manufacturer, belong to this class. They must be used for the purposes to which they are particularly adapted, or they have little value. They are fixed. The ship cannot be used as a wagon, nor the spinning-jenny as a steam engine.

2. Circulating capital, on the other hand, consists of those articles or commodities which may be readily changed from one purpose to another, connected with production. Of this class are the stock and produce of the farmer, the money and wares of the merchant, the raw materials, &c., of the mechanic. These are easily transferred from one business to another, and used in a great variety of forms. The man, for example, whose money is employed in the manufacture of furniture, might easily transfer it to the making of nails. Fixed is, in its nature, more permanent than circulating capital. The former lasts from year to year; much of it, as lands, warehouses, canals, railroads, and public improvements generally, even from one generation to another; while the latter, in a progressive state of society, is rapidly changing into the former. Raw materials, the product of the present year, will form a part of the houses, ships, and machinery of the next.

In popular language, all wealth is divided into real estate and personal property. These distinctions, if not scientific, are convenient for occasional use; but we must bear in mind that, while all real estate is fixed, all personal property is not circulating capital. Ships, machinery, and other things not attached to the soil, are all personal property, though standing in the category of fixed capital.

### DIFFERENT DEPARTMENTS OF PRODUCTION.

All values are created by modifications of existing matter. Man cannot create a particle of matter itself. These modifications are essentially of three kinds, viz.:—I. *Transmutation.* II. *Transformation.* III. *Transportation.*

I. By transmutation. This is eminently the business of the agriculturist, who, availing himself of the chemical agencies of the earth and atmosphere, transmutes his seeds into vegetables, fruits, &c.; and again, by the aid of animal organizations, transmutes his grains, grasses, and the like, into butter, cheese, beef, pork, wool, hides, and similar products. This is by far the most extensive department of human industry. It forms the base of the great pyramid of production, is that on which all others depend, and is, moreover, that in which nature affords the largest proportionate share of gratuitous assistance. The chemist is classed with the agriculturist, since he so aids and directs the powers of nature as to produce objects of value, by changing the elementary forms of acids and alkalies with salts, &c. This is the general character of his labors. Mining and the fisheries are also ranked in this department of production. In the former, wealth is drawn from the bowels of the earth; in the latter, from the bosom of the deep. In their nature they are more nearly allied to agriculture than to any other branch of industry, and are classed accordingly.

II. By transformation. This is the business of the manufacturer, the mechanic, and all similar employments. They create values by changing the forms of matter. They convert wool and cotton into cloth, cloth into garments; ore into iron, iron into machines and implements; trees into lumber, and lumber into houses or furniture. This is the second most important department of industry; its ramifications extend indefinitely, and include every description of art and handicraft, from highest to lowest.

III. By transportation. The merchant, if he does not primarily create values, enhances those already in existence. He transports the products of all classes to those parts of the earth where they are most wanted. For example, he purchases cotton in New Orleans, where it may be worth twelve cents, and transports it to Liverpool, where it may be worth fifteen. By the employment of his ships, capital, and skill, he has given an increased value of twenty-five per cent. to a commodity already existing; and is, in so far, a productive laborer as truly as the planter who raised the cotton. This principle applies to all traffic, whether great or small. The merchant forms the connecting link between the agriculturist and manufacturer. Commerce not only facilitates, but greatly stimulates production by increasing the demand for products. This is a prominent fact in political economy, and is illustrated in the history of every people. Where there is no commerce there is little wealth. Industry stagnates, men have few desires, and demand but few commodities. Commerce presents new objects. This causes new efforts to produce values in order to obtain those objects—and the industry of society is raised to its highest point. This is one of the ways in which commerce greatly advances civilization. It is probably a fact, that the civilization of every community is in proportion to the extent and variety of external and internal commerce; and that whenever a people has ceased to have new and increasing desires for the objects of commerce, it has passed in its career of improvement.

Canals and railroads perform services analogous to those of the merchant. They employ capital and labor in transporting merchandise, and thus add to its value. A railroad agent at Albany receives one thousand barrels of flour, and delivers it at Boston. By this operation the value of the flour has been raised, we will suppose 50 cents per barrel, equal to $500. So of all carrying trade, by land or water. Upon these three divisions, then, are founded the three great departments of human industry—agriculture, manufactures, and commerce. The first producing the raw materials, the second putting those materials into desirable forms, and the last enabling both the others to exchange their products with the greatest possible facility.

But whatever divisions we make in production, and however useful and proper those divisions may be, it is yet true that no single object is the product of any one of them exclusively. For example, the fisherman takes his small vessel, and brings fish from the ocean to market. At first blush it might seem that these fish were the exclusive production of the fisherman's labor; but not so. In order to carry on his business he had to be suitably clothed, and the value of every article he wore, from hat to boots, entered into the production of the fish. So of every part of his vessel and its equipment. And if we were to examine the matter clearly, we should probably find that some fifty or a hundred different trades or employments had obviously contributed to the production of the fish in question. So blended, in fact, are the various occupations of men, that it would be quite impossible to trace out fully the production of any one commodity.—*Hunt's Merchants' Magazine.*

Lincoln Beast Fair, of last month, presented a very large supply of beasts. However, the attendance of purchasers was far from corresponding, and trade was dull and slow at full 20s. to 30s. per head lower than the rates anticipated. Good fresh stores realized £18 to £26; drapes, of which the supply was short, ranged from £17 to £21; fat beasts made from 8s. 6d. to 9s. 3d. per stone. In the fair, Mr. Marshall, of Branston Moor, had eight much admired oxen, four of which, estimated to weigh 90 stones each, sold for £144. Three very fine beasts, belonging to C. Chaplin, Esq., realized £36 10s. each; and two heifers, bred by C. Clarke, Esq., of White House, were purchased by Mr. W. Wilson, and were afterwards sold to the agent of the Duke of Devonshire.

During the late Fair, Mr. D. Houson, the noted dealer in agricultural horses, made several purchases for the London brewery companies. M. Bamberger, of Berlin, bought for Prussia two entire horses, giving for the two £259. Several valuable riding horses and hunters were purchased by M. Solmitz, from Brunswick, and M. Donath, from Griefswald. Messrs. Winder and Mason sold the steeple-chaser, Liverpool Boy, by auction, for £80; and Mr. Lyall and Mr. G. Smith also sold several good hunters.

To add one per cent. of lime to a soil that is destitute of it, requires 10 tons of slacked lime, or 6 of caustic, to the acre.

At a recent meeting of the Philadelphia Society for Promoting Agriculture, E. M. Davis of this city, exhibited three varieties of apples, which were in the most perfect state of preservation, and gave the following as his mode of preserving them:

"They were kept in closets, in a cold, dark cellar, free from moisture. These closets are made of ordinary lumber, with tight-fitting doors. The shelves are made to slide that they may be removed at pleasure, latticed to afford free circulation of air, and only far enough apart for a single layer of apples on each, and about half a peck of unslaked lime was placed in an open pan on the floor of each closet. The apples were hand-picked, and without more than ordinary care, were taken to the cellar and put upon the shelves, one bushel filling three of them. Those showing signs of decay were removed. The Winter Pearmain, and the Roman Stem retained their flavor till the middle of March. The Cider apple was much better then, than in December, but before April became mealy. The variety known here as the Regular, but which I think is the Redling, still retains its qualities; and I have no doubt can be kept until August. Another apple, and a few Russets, are the only kind upon which I have tried this experiment. The total cost of the five closets, capable of holding fifty bushels, was $14."

## PUBLIC SALE OF SHORT-HORNS AT THE FARM OF JAMES GOWEN, MOUNT AIRY.

Agreeably to previous notice, the sale commenced at 11 o'clock on the 10th ult.; and considering the very gloomy weather that prevailed throughout the whole day, it was well attended. With his usual hospitality, Mr. Gowen had prepared a table in the barn, filled with luxuries, to which the visitors did the fullest justice; and after stating that there would be no under-bidding—that he was ready to make sacrifices, but in any case where he considered it too great, he should reserve for himself one bid, and thereby treat everybody fairly and honorably—they proceeded to business, as follows:

No. 1, Beauty, light roan, ten years old, fed by Mr. Gowen, in fine milking condition, bought by Mr. Halderman, of York, for $100; No. 2, Victoria, light roan, eleven years old, Prince of Wales blood, bred by Mr. Remsen, sold to Mr. Halderman for $110; No. 3, Annie, red and white, bred by Mr. Sheridan, said to be seven years old, a regular breeder and fine milker, sold to Mr. Halderman for $80; No. 4, Isabella, white and red, seven years old, bred by Mr. Gowen, (never missed taking the premium whenever

exhibited,) a fine milker and regular breeder, sold to Mr. G. G. Lobdell, of Wilmington, Delaware, for $300; No. 5, Young Nell, white and red, mottled yellow roan, five years old, bred by Mr. Sheridan, sold to Mr. Lovering for $100; No. 6, Young Dairy Maid, roan, five years old, a fine cow, was withdrawn by Mr. Gowen at $500; No. 7, Daphne, (Sally,) red and white, mottled roan, five years old, bred by Mr. Sheridan, a great breeder and excellent milk cow, sold to Mr. Halderman for $160; No. 8, Lilly White, four years old, bred by Mr. Gowen, a great milker and profitable breeder, sold to Mr. Potts for $160; No. 9, Moss Rose, light roan, four years old, bred by Mr. Duckett, Prince of Wales blood, sold to Mr. Leavitt for $190; No. 10, Grace Darling, red, six years old, bred by Mr. Duckett, an excellent milker and easy feeder, sold to Mr. Hoops for $210; No 11, Fairy, roan, three years old, bred by Mr. Gowen, Prince of Wales blood, sold to Mr. Lobdell for $180; No. 12, Violet, red and white, slightly roan, six years old, bred by Mr. Robt. M. Carlisle, sold to Mr. Strohm, of Lancaster, for $100; No. 13, Miranda, roan, eight years old, a splendid cow, a regular breeder and a capital milker, sold to Mr. Cavendah for $190.

*Young Heifers.*—No. 14, Blossom, white and red-spotted, two years old, bred by Mr. Duckett, sold to Mr. Charles Kelly for $75; No. 15, Ruby, red, bred by Mr. Gowen, sold to Wm. Halderman for $110; No. 16, Miss Model, mottled roan, nearly two years old, bred by Mr. Gowen, sold to Mr. Halderman for $210; No. 17, Flora, red and white, two years old, bred by Mr. Gowen, sold to Mr. Lobdell for $120; No. 18, Rowan, red, two years old, bred by Mr. Gowen, Duke of Cumberland descent, withdrawn; No. 19, Cleopatra, roan, nearly two years old, bred by Mr. Gowen, blood of the Liberator, Lord Marquis and Wellington, a splendid heifer, sold to Mr. C. Kelly for $220; No. 20, Pansy, white and red mottled, eighteen months old, Duke of Cumberland blood, bred by Mr. Gowen, and by him withdrawn; No. 21, Blanche, white, sixteen months old, Duke of Cumberland stock, bred by Mr. Gowen, and by him withdrawn; No. 22, Bessy Bell, red, with white spot on forehead, sixteen months old; Duke of Cumberland stock, bred by Mr. Gowen, sold for $90, to Mr. Caldwell; No. 23, Cream Pot, mottled roan, eleven months old, Duke of Cumberland, bred by Mr. Gowen, sold to Mr. Halderman for $60; No. 24, Minnie, red and white, eight months old, Duke of Cumberland, bred by Mr. Gowen, sold to Mr. A. B. Hamilton for $95; No. 25, Miss Ellen Kirby, light roan, eight months old, Duke of Cumberland stock, bred by Mr. Gowen, sold to Mr. Lobdell for $75; No. 26, Fair Star, red and white, white spot on forehead, eight months old, Duke of Cumberland, bred by Mr. Gowen, sold to Mr. Hamilton, of Harrisburg, for $130; No. 27, Primrose, mottled roan, eight months old, Duke of Cumberland stock, bred by Mr. Gowen, sold to Mr. Leavitt for $95; No. 28, Dahlia, light roan, seven months old, Duke of Cumberland stock, bred by Mr. Gowen, sold to Mr. Anderson for $140; No. 29, Cinderella, red and white, six months old, Duke of Cumberland stock, bred by Mr. Gowen, sold to Mr. Lobdell for $110.

*Calves.*—No. 30, Kate, red and white, four months old, Duke of Cumberland stock, bred by Mr. Gowen, sold to Mr. Cavendah for $55.

*Bulls.*—No. 31, Montgomery, light roan, two years old, bred by Mr. Gowen, sold to Mr. Raybold for $270; No. 32, Earl of Durham, roan, eighteen months old, bred by Mr. Gowen, withdrawn; No. 33, Dashwood, red and white, sixteen months old, Duke of Cumberland stock, bred by Mr. Gowen, sold to Mr. Caldwell for $120; No. 34, Bramble, mottled roan, sixteen months old, Duke of Cumberland stock, bred by Mr. Gowen, sold to Mr. Debro for $120; No. 35, Comet, light roan, fourteen months old, Duke of Cumberland stock, bred by Mr. Gowen, sold to Mr. Leavitt for $130; No. 36, Roderick, mottled roan, red neck, six months old, Duke of Cumberland stock, bred by Mr. Gowen, sold to Mr. Rapp for $130; No. 37, Glenroy, white and red, five months old, Duke of Cumberland stock, bred by Mr. Gowen, sold to Wm. Hamilton for $80; No. 38, Mountjoy, red and white, five months old, Duke of Cumberland stock, bred by Mr. Gowen, sold to Mr. Hoops for $35; No. 39, Ned of the Hills, red and white, five months old, Duke of Cumberland stock, bred by Mr. Gowen, withdrawn; No. 40, Allegheny, red and white, three months old, Duke of Cumberland stock, bred by Mr. Gowen, sold for $40; No. 41, The Duke of Cumberland, a ponderous bull, mottled roan, four years old, bred by General George Cadwalader. No offer was made for him, and Mr. Gowen withdrew him from the block, and the sale concluded.

## CURIOUS DEVICE IN GRAFTING.

The gardeners of Italy sell plants of jasmines, roses, honeysuckles, &c., all growing together from a stock of orange, myrtle, or pomegranate, on which, they say, they are grafted. But this is a mere deception; the fact being, that the stock has its centre bored out, so as to be made into a hollow cylinder, through which the stems of jasmines and other flexible plants are easily made to pass, their roots intermingling with those of the stock. After growing for a time, the increase in the diameter of the stems, thus enclosed, forces them together, and they assume all the appearance of being united to one common stem.

## EXTRAORDINARY PRICES FOR SHORT-HORN STOCK.

The sale of Mr. Ambler's short-horns, on the 2d of April, at Watkinson Hall, near Halifax, by Mr. Strafford, was attended by buyers from all parts of the United Kingdom, also from France, Germany, the United States, and Australia. The bull Grand Turk was purchased by the Illinois Company for 300 guineas; Museum was knocked down to Mr. Walker for 160 gs.; Bolingbroke to Mr. Armstrong for 150 gs.; MacTurk to Mr. Stewart for 135 gs. The remaining bulls realized from 23 to 64 gs. per head. The principal cows and heifers were disposed of as follows:—Britannia was bought by Mr. W. Torr, of Riby, Lincolnshire, for 270 gs.; Lady Mary, by Mr. G. S. Wemyss, for 205 gs.; Miss Nightingale, by Mr. Walker, for 200 gs.; Western Lady, by the Illinois Company, for 175 gs.; Aconote, by Col. Dennant, for 135 gs.; Eupatoria, by Mr. G. S. Foljambe, Osberton Hall, Notts, for 105 gs.; Woodbine, by Mr. Charlesworth, for 96 gs.; Lady of the Manor, by Mr. Charlesworth. for 95 gs.; Wiseton Lady, by Mr. Townshend, for 90 gs.; Sally, by Mr. J. Peel, for 86 gs.; Lady Sarah, by Sir J. Pigott, for 85 gs.; Kathleen O'More, by Mr. Jolly, for 80 gs.; Lizzy, by Mr. Wemyss, for 76 gs.; Flavia, by the Duke of Montrose, for 64 gs. The remaining cows and heifers sold at from 23 to 60 gs. per head. The total number of lots sold was fifty, realizing 4164*l.*; the average price per head being 84*l.* On the following day, the herd of the Rev. Thos. Cator, of Skelbrook Park, near Doncaster, were also submitted to competition by Mr. Strafford. Of the bulls, the Duke of Cambridge was bought by Mr. Holland, for 180 gs.; Schamyl Bey, by Mr. Wentworth, for 135 gs.; Duke of Wellington, by Mr. Bell, for 105 gs.; King Oscar, by Mr. Broadhead, for 74 gs. The prices of the remainder ranged at from 30 to 50 gs. per head. Of the cows and heifers, Czarina was bought by Mr. Eaton, for 100 gs.; Pomegranate, by the Illinois Company, for 90 gs.; Duchess of Norfolk, by Mr. Peel, for 85 gs.; Lady Feversham, by Mr. Drury, for 81 gs.; Princess Louisa, by Mr. Brodie, for 73 gs.; Lady Camilla, by Mr. N. M'Donald, for 70 gs.; Lady Hawke, by Mr. Eaton, for 71 gs.; Patience, by Mr. R. H. Wrightson, of Warmsworth, near Doncaster, for 70 gs.; Ultima Thule, by Mr. C. Smith, for 61 gs.; Cassandra, by the Illinois Company, for 58 gs.; Songstress, by Mr. Barber, for 51 gs. The prices of the remainder ranged from 23 to 50 gs. per head. The total proceeds of the sale (about sixty head) amounted to upwards of 3000*l.*

Baron Ward, of Vienna, the Ex-Yorkshire stable boy, has challenged the world to produce a reaping machine equal to his own for 1000 florins.

## CULTURE OF PARSNIPS.

This kind of root crop is a favorite one with some, both for the table and for the use of stock. Parsnips are certainly delicious in the spring, especially such as have stood in the ground during the winter; and, judging from the greediness with which they are devoured by cows, we conclude that cattle relish them about as well as human beings.

If, in consideration of the several good qualities of parsnips which have been mentioned in previous volumes of this paper, such as the excellent color and flavor of butter made from the milk of cows fed upon them; their superiority to carrots, turnips, &c., for fattening cattle, and giving to the meat an exquisite flavor and juicy quality; their utility in fattening hogs and poultry, producing fat in a shorter time and meat of a more sweet and delicious quality than when these animals are fed with any other root or vegetable: if, we say, any of our readers, in consideration of these and other good qualities which parsnips have been thought to possess, should conclude to make trial of a small patch of them, we would suggest, to make their trial a successful one, that the patch selected should be a sandy loam, or a soil as nearly approaching to that as possible, that the seed should be fresh, or have its sprouting quality tested, that the drills should be wide enough apart to admit of easy working, and that the land should be carefully kept clear of weeds.

It is not yet too late to sow a patch of parsnips, as they have this advantage over other roots, that they can be allowed to remain in the ground during the winter, and thus have the advantage of keeping on growing until the ground is frozen solid. Those who have allowed the most favorable seed-time for the other earlier roots—turnips and ruta bagas not belonging to this class—to pass by without having put in a patch of carrots, sugar or mangold beets, would do something which they would be little likely to regret if they should now, or soon, put in a small patch of parsnips, and carefully hoe and weed them. They will become sufficiently large and matured before winter closes up the ground. They will require no care in storing them, as they keep better in the place where they grow than elsewhere. For occasional use during the winter, however, a few may be taken up before frost, and stored with a covering of earth or sand to prevent them from shrivelling and losing somewhat of their juiciness and delicious sweetness and flavor.—*Country Gentleman.*

Swamp muck, or peat, when dry, will take up, without dripping, four times its own weight of water. Hence the necessity of thorough drainage.

## DEVON CATTLE.

The merits of the Devon breed of cattle for the yoke and the butter dairy, are too well known to need mention here. Though their yield of milk does not equal that of some other breeds in quantity, it so far surpasses them in quality, as to more than make up the difference, when wanted for the churn. As working oxen they are unequalled by any other breed in activity, docility, intelligence and beauty; the fine red color is almost invariably obtained in the half breeds, even though the cross be on a white cow.

But as beef cattle they are comparatively little known in this country; it may be well, therefore, to point out here their claims for adoption as such.—The high prices for beef, which have ruled in all our markets for several years past, and the greater discrimination which is now made in the quality of meats, will warrant the farmers in other parts of the country than on the prairies and rich lands of the West, in turning their attention to the raising and feeding of steers. Throughout New England, the greater part of New York, Michigan, and the far North-west, and again through all the Southern States, except Kentucky, Missouri, and parts of Virginia, the Devon will be found the most profitable breed for the raising of beef. The severity of the winters, and the shortness of the summers together with the roughness of the country in the far north, combine to produce the same results as the intense heats, the droughts, and the lightness of the soil in the Southern States, viz: scant pastures.—Experience has proved that the Devon will stand both extremes of climate, and that there are few pastures so poor, but that a proper bred animal of this breed will gain flesh in them.

When fat, no beef known among us is equal to that from the Devon; the grain is finer, the fat and the lean better mixed, and the proportion of prime pieces is greater than in any of our other breeds.—They will not, it is true, equal the Short Horns in either weight or early maturity; but they have as much of each as the districts of country for which they are calculated will warrant. Half-bred steers are fit for the butcher at three years old or a little over, and may be made to weigh 1000 lbs. in beef at that age.

C. S. WAINRIGHT.

*"The Meadows," Rhinebeck, Dutchess Co., N. Y.*

THUMB PRUNING.—Every one who raises a fruit tree should remember that it is easier to rub off a small green shoot than to saw off a large limb; and that it is better to give a well formed head to a young tree than to mutilate a large one in attempting to cure early deformity.—*Country Gentleman.*

## POTATO MEAL.

At a meeting of the Farmers' Club, of this city, on the 12th inst., M. B. Southwick, of Canada West, exhibited a preparation of potatoes dried by heated air after being boiled, which simply takes away all moisture from the pulp, leaving it in grains of the size of coarse gunpowder. He says it can be prepared for a cost of twelve cents a bushel, and reduced in bulk four-fifths. This product can be kept as easily as flour, and may be prepared ready for eating in five minutes. The process of cooking was exhibited to the Club over a spirit-lamp, and the product tasted much like ordinary mashed potatoes. To prepare it for eating it is mixed with three times its bulk of water, and stirred until it is of the consistency of mashed potatoes. It is then set into an oven for a few minutes, when it is ready for the table. Fifteen bushels of potatoes make one barrel of this flour, which is stated to keep for years without injury in a dry place.

This is something worthy the attention of our agriculturists. There was a tolerable good crop of potatoes in many places last year, and their price in the *fall* was moderate; but it soon rose to a very high figure, because the rot commenced among them after being stored away. Hundreds of thousands of bushels, we believe, were thus lost. Here is a method of saving potatoes from destruction by winter rot, and at the same time providing a most pleasing, healthful, and nourishing vegetable food, which should not be neglected by those who can, and who should, take advantage of it.—*Ibid.*

## WHO WOULD NOT BE A FARMER?

The Louisville Courier pays the following tribute to the occupation of the farmer:

"If a young man wants to engage in a business that will insure him in middle life the greatest amount of leisure time, there is nothing more than farming. If he has an independent turn of mind, let him be a farmer. If he wants to engage in a healthy occupation, let him till the soil. In short, if he would be independent, let him get a spot of earth, keep within his means, shun the lawyer, be temperate to avoid the doctor, be honest that he may have a clear conscience, improve the soil so as to leave the world better than he found it, and then if he cannot live happily and die contented, there is no hope for him."

HOGS should always have access to the ground, and for breeding sows it is indispensably necessary. The want of this has been the death of many a fine litter.

**From the London "Field, the Country Gentleman's Newspaper."**

## CORNS IN HORSES.

There are few ailments that lame more or cause more acute pains to the horse than do corns, if not properly treated, and few that are more easily alleviated if scientifically set about. Corns, I quite believe, are a disease incident to some horses, as I am quite convinced they are to some persons. Skillful chiropodists will so far alleviate their effects, that a man may walk and feel no inconvenience from them: this in no way proves that he cures them—his skill may prevent any inconvenience being felt for weeks, or months, but the disease continues, and in time, less or more, its effects will be found to continue. It is a received axiom that pressure produces corns. I do not conceive it quite amounts to this: the germ of the disease is there, and pressure produces lameness; but I am very much inclined to doubt whether pressure would produce a *bona fide* corn in a perfectly healthy foot; it would certainly produce a bruise; but if a corn was not inherent in the foot, I feel clear that so soon as such bruise was found and cured, it would be, like a bruise of any sort, cured radically. If the same improper pressure was applied, of course the foot would be again bruised, again to be cured; and afterwards shoe the horse fairly and well, we should find no more of the temporary ailment.

Let us now consider of what leading characters the foot of the horse consists. There will be found to be wall, or crust, the side, (covering,) the sensible part of the foot, the frog, and the bars. Now these bars join the foot-crust of the foot at the heel, and form an acute angle there, from whence they run to the narrow point or termination of the frog. It must be quite clear to any one that any sensible part of the foot confined, I may say jammed in, by an acute angle formed by the two different parts, that the foot must more or less undergo the pressure spoken of; and it is in this angle between the bars and wall of the foot that corns are inherent, or the bruises I have spoken of are found to exist. It may be asked, and very reasonably, as the horse's foot is formed the same on the inside as the out, and the shoe formed the same or nearly so at both heels, how happens it that a corn on the outside is a circumstance of very rare occurrence? The only reason I can surmise is, that from some natural cause, he treads heavier on the inside than the out; and, supposing my idea to be correct, we have not found out any mode to prevent this. Having stated the nature of corns to the best of my experience, observation, and anatomical knowledge of the foot, I will state other causes that produce pressure besides the being confined in the corner spoken of between the bars and the crust: this is pressure from the upper surface, namely, the sole. This, as may be at once apparent, produces the same effect or result as does the accumulation of hardened substance that from time to time thickens on our corn, if we are unfortunate enough to have one. Most persons are more or less quite acquainted with the pain it creates. It is the same with the horse. It would be well for him if we could at once and as effectually relieve him as we can ourselves; but, unfortunately, common blacksmiths do not do this, or even set about it in the right way to effectually produce the wished effect. Many persons have remarked that a horse with corns will frequently, I will say generally, go firm and sound for some days, more or less, after being shod. The fact is, the cause of lameness has been for a brief time removed, that is, the corn has been relieved of pressure. Smiths are apt enough to slice away at the frog. They have learned from practice and observation that the upper coat for a certain thickness is perfectly insensible, and have ascertained by practice also how far they may, in the generality of cases, go before they approach the sensible part. I never found a smith, who thus acted, who could give a more sensible reason for his cuttings than that "it kept the frog in shape and looked neat," when the new shod foot was looked at. With deference to these gentry, I beg to say, it never fell to my lot to see a frog grow out of proper shape, except in a state of disease. I have seen in a common smith's pent-house, half a dozen curs waiting for the cuttings from horses' frogs, of which they are inordinately fond. They might wait long enough at Mr. Field's, of Oxford Street, before they got a chance of a "bonne bouche." The closely paring a horse's healthy frog, is tantamount to taking a man's comfortable walking shoes off and turning him on a newly macadamized road in a pair of dancing pumps.

They have heard that the bars are intended to "spread the hocks." They were intended for no such thing, but were placed there to support the crust and retain the foot in its natural and healthy shape; what shape it may contract from acute disease is another matter. They are not content to take away as much of the wall, the sole, and the bars, as to place them in the same relative position as regards each other as they were before, but will pare down the sole, leaving the bars standing up a perfect ridge each side of the horse's frog—I suppose from thinking they are better judges of proportion than is or was Nature, who formed the foot. If we send a horse to an inferior smith, and the servant tells him the horse has corns, he usually begins by lowering the wall or crust, whether it wants it or not; he then holds it necessary to take away a certain part of the insensible sole, whether there is any overgrowth or not. He then comes to the frog, which he works away at till its appearance pleases him; then comes the rasp, to bring if possible the foot to a certain shape. If naturally a spread or wide one, the rasp travels along the out and inner side—the workman, with a knowing look, regarding it till he has probably weakened the crust so far as to render it a matter of serious difficulty and risk to find hold for the nails. This done he sets to work to find the corn. For this purpose a small drawing-knife, called "a scratcher," is brought into requisition; with this (I can find no better term) he *digs* away where practice has taught him the corn is to be expected—namely, the inside heel between the crust and the bar. I should mention that, prior to such anatomical search, in most cases he sets the foot on the ground, and, coming in front, probably says to the servant, with a self-satisfied air, "There! his foot looks a very different thing to what it did when you brought him." But to return to the searching. After considerable digging in the corner, and the whole superstructure of sole being removed, the corn is come at, and, as it sometimes happens, the sensible part of the foot is come at also.

The smith is satisfied with the shape to which his paring and rasping has brought the foot, and, having discovered the latent corn, or at all events, bruise, we must suppose he would have been equally satisfied with his work had he taken a mule-footed horse in hand, and, by dint of paring away the toes and front part of the foot, had brought it somewhat into the shape of a well-formed one. But to the work in hand. Having removed all direct top pressure, he commences fitting on the shoe; the pain is partially removed, that is, so far as super-pressure is concerned; but there remains lateral pressure. This, at first, may not much affect the horse, and he goes sound, or comparatively so, for a time. But mark the inevitable result; he has so weakened the superstratum of insensible sole while groping for the corn, that he has deprived the foot of any power of resisting the close approach of the wall of the foot and the bars; he has, in fact, counteracted the intent of Nature, which originally was, that each part might have the power of performing its appointed function. The consequence is, from the want of the accustomed support the pressure of the shoe at the heel in a few days will bend the weakened wall on which it rests inwards, and the shoe finally bears on the corn, and lameness returns with all its pristine grievance. It is true there are some horses the crust of whose foot is so strong that, though you diminish inside support, is strong enough to support the shoe, keeping it from pressure on the ailing part. Where such is the case, the horse may go in an ordinary shoe; but where the crust is thin, it will not bear the abstraction of the inward support, and a strapped or bar shoe will be necessary. We know that in a general way the undue lowering of the heels is objectionable. So are corns. It therefore merges into this, whether it is better to lower the crust and cut away the bars and heels in a corresponding degree to the quantum of sole we remove, or to leave the horse half a cripple; for I consider that in many cases we are left but to choose between the two alternatives.

The difference between a strapped shoe and a bar one is, the latter is somewhat rounded at the heel, the former may be made all but square; in point of fact, they are pretty much the same, the great merit of both being that they pass over the frog, to which the iron part which connects the heels may in the centre be flattened; and to this flat centre may be affixed a piece of shoe-sole leather on the part on which the frog bears, thus giving the shoe a bearing on the frog that greatly lessens that on the heels, and effectually prevents a pressure on the corn, and likewise saves it from hurt and exposure to casualties. It must be quite clear to any one that a horse with a sore corn, if he comes on a projecting sharp and very hard substance, must drop from sheer pain. Whether he falls or not, will depend partly on his gameness and resolution, and partly on the quickness with which he brings the sound leg (if he has one) to the relief of the afflicted one. If both feet are afflicted, the necessity of strapped or bar shoes becomes apparent.

There are many persons, who, from prejudice, object much to either: they think they have a tendency to contract the foot, and say, pertinently enough, "How can a horse's foot expand with a piece of iron run across the heels that would prevent it doing so?" This would be all very well, if it was a correct representation of the case; but persons must bear in mind that, though the heels of an iron shoe cannot expand, whether it be a common made one or a bar shoe, the horse's foot can. It may be objected, and frequently is, How can the foot expand when confined to the shoe by nails? I quite admit the side crust cannot; but let any one look at a properly shod foot, they will find the nailing and nail holes cease long ere the heels begin. Again, let any one remove a shoe of any kind, after it has been worn three weeks or a month, they will find by the polish and marks on the heel of the shoe that those of the horse have had ample space and liberty to expand, if disposed to do so. Contracted heels and feet arise from various causes, chiefly, I should say, from internal disease; but I conceive it to be rarely the case that a really healthy foot becomes a contracted one from the effects of shoeing alone.

There is another circumstance connected with the shoeing of the horse that probably has never attracted the notice or thought of the casual observer. Let us shoe a yearling for the first time; he naturally feels awkward in his shoes, from various causes, but also from one that strikes but few of us. He has been accustomed to feel his foot, toe, sides, heels, and frog, bearing equally on the ground. Now, by our mode of shoeing, and the form of the shoe, we deprive him of (say) one-fifth of the support his foot has been accustomed to feel; in fact, by the formation of the shoe, we deprive him of support to the frog at all. From this he would probably feel no inconvenience if immediately led into a soft meadow, where the shoe could bury itself deep enough in the yielding surface to enable the frog to get its accustomed support. This is why hunters and race-horses do not suffer from our mode of shoeing. Their principal and severest work is done on soft ground, and this neutralizes what would otherwise be the dire effects of taking all support from the frog. Set the foot on the smooth surface of a well made high road, you would perceive, as the shoe could make no impression, the vast amount of support of which we deprive the leg of the horse. The frog is an important part of the foot—an elastic cushion placed at the heel, to take off the concussion that would be otherwise thrown on the sheath of the back sinews—in fact, on the sinews themselves, and all the surrounding parts of the back part of the leg. Much has been said on the subject of "concussions and hard roads." Persons are apt to think the only concussion to be feared is that which affects the foot of the horse on hard roads; this, I admit, is bad enough, but that which arises as regards the back sinews having no support, is infinitely more to be dreaded; and I think I am right in saying, that, if I had a horse engaged in a gallop match against time, on a hard road, like the one performed some years back on the Brighton road, he should most unquestionably do it with strapped shoes, well padded with leather for the frog to rest upon; and I am quite sure all horses used on hard roads would go better in such shoes than in those in general use. Fortunately for horses, usual road work is not severe enough or fast enough to render change in the mode of shoeing necessary for sound horses; and many persons are so influenced by appearances, that rather than use a somewhat unusual shoe, they will use a cripple, that might be made to go with ease to himself and safety to his employer, by judicious shoeing. If a man, not conversant with such matters himself, has a horse thus situated, let him send him to a first rate veterinarian, with permission to shoe him as *his* judgment directs; he may then depend on it, all that can will be done to remedy the ailment.

Harry Hieover.

## AN ACRE AND A HALF OF WHITE BEANS.

A correspondent of the *Genesee Farmer*, writing from Springhill, Bradford county, Pa., says: "Allow me to give the facts respecting the cultivation of one and a half acres of beans last year. The soil is free from excess of wet, but not what would be denominated dry, the subsoil being tenacious, but a reasonable depth below the surface. The field was cultivated with corn and beans the preceding year. Last spring, after having put it in good condition with plow and harrow, I drew shallow furrows with the plow for planting, say two to three inches deep and three feet distant, and running north and south. Planted in the furrow from six to eight beans in the hill, scattering them a little, say six to eight inches; then leave a space of twelve inches, and plant more beans, and so forth. I have tried drilling, and find no difference in the product, as in both cases they make a close row; but in pulling, the former method is preferable, when by using both hands, we pull up a hill at each grasp. When the beans were fairly up, I passed the plow once around each row, turning the earth towards the beans; and when nearly putting forth blossoms, plowed them again in the same way, one hand with the hoe following the plow at each dressing. Under ordinary circumstances, the bean lot is easily kept free from weeds, from the fact that as soon as the plant is up, its large foliage takes a horizontal position, and almost bids defiance to intruders. From the one and a half acres, I had twenty-four bushels of beans, (small white,) worth one dollar and fifty cents per bushel, at the barn.

"On land that has suffered from hard usage, when being restored, and in a transition state, the bean crop is much more reliable, and will pay better, than wheat."

## SIMPLE BUTTER COOLER.

Melted butter is all very well in its right place, but when butter is put upon the tea or breakfast table, having the appearance of being just out of the oven, it is anything but creditable to the housekeeper, and far from satisfactory to those who eat it. Dry toast is positively spoiled if spread with soft butter; indeed, if butter cannot be brought to the table, at least firm, if not hard, it is better to keep it away altogether. Fortunately, however, it is not necessary to proceed to such desperate measures, as butter can be kept nice and cool in the hottest weather, and that in a very simple manner. Procure a large, new flower pot, of a sufficient size to cover the butter-plate, and also a saucer large enough for the flower pot to rest in upside down; place a trivet or meatstand (such as is sent to the oven when a joint is baked) in the saucer, and put on this trivet the plate of butter; now fill the saucer with water, and turn the flower pot over the butter, so that its bottom edge will be below the water. The hole in the flower pot must be fitted with a cork; the butter will then be in what we may call an air-tight chamber. Let the whole of the outside of the flower pot be then thoroughly drenched with water, and place it in as cool a spot as you can. If this be done over night, the butter will be as "firm as a rock," at breakfast time; or, if placed there in the morning, the butter will be quite hard for use at tea hour. The reason of this is, that when water evaporates, it produces cold: the porous pot draws up the water, which, in warm weather, quickly evaporates from the sides, and thus cools it; and as no warm air can now get at the butter, it becomes firm and cool, in the hottest day.—*Septimus Piesse—Boston Cultivator.*

Soap Suds for Currant Bushes.—A correspondent of the *Indiana Farmer* says: "I have found the cultivation of currants to be very profitable. By care and attention, I greatly increased the size of the bushes and the quality of the fruit. My bushes are now about six or eight feet in height, and are remarkably thrifty. The cause of this large growth I attribute, in a great measure, to the fact that I have been in the habit of pouring soap suds and chamber ley around their roots during the summer season. I am satisfied, from my own experience and that of some of my neighbors, that the treatment will produce a most astonishing effect upon the growth and product of the bushes, and would advise others to give it a trial."

## UNITED STATES IMPORTS AND EXPORTS.

The *Journal of Commerce* has the following brief summary of the imports and exports of the principal cities of the United States:

The exports and imports into the six principal collection districts of the United States for the quarters ending 31st December, 1856, and 31st of March, 1857, were as follows—the six ports are Boston, New York, Philadelphia, Baltimore, New Orleans, and San Francisco:

For the quarter ending December 31st, 1856, the aggregate of exports was $69,118,000, and of imports $64,181,000.

For the quarter ending 31st March, 1857, the exports were $69,945,000, and the imports $92,500,000.

The exports for the last quarter named, from Boston, were $3,360,000; and from New York, $20,462,000; from Philadelphia, $1,742,000; from Baltimore, $2,206,000; from New Orleans, $34,741,000; and from San Francisco, $2,434,000.

The imports for the same quarters, into Boston, amounted in value to $11,316,000; New York, $64,891,000; Philadelphia, $4,131,000; Baltimore, $2,685,000; New Orleans, $7,058,000; and San Francisco, $2,427,000.

The exports of foreign merchandise for the last quarter named, amounted to $6,536,000.

## PRINCIPLES OF MANURING.

The great fundamental principle on which a manure is employed depends upon the fact that every plant during its growth accumulates in its system a certain quantity of matter essential to its existence, which it derives partly from the soil, and partly from the air. From the former it extracts the fixed mineral matters which exist there, and there only; while from both it obtains supplies of its organic food, that is of the water, carbonic acid, ammonia, and nitric acid, required to build up that greatly preponderating portion of its mass, which is combustible. Plants grow naturally without cultivation, because the soil and the air always contain a certain quantity of the elements they require; and as they either die in the spot where they grow, or are consumed by wild animals, these substances sooner or later find their way back to the soil, there to commence a new cycle of similar changes, so that a certain moderate production continues from year to year. But when agriculture comes into operation these conditions are changed: the crop is removed from the soil and consumed elsewhere, and though the air will still afford the elements which are derived from it as abundantly as before, the next generation of plants must find in the soil a diminished supply of the substances it obtains from hence. The necessary consequence is, that if the cultivation of plants be continued, the quantity of valuable matters in the soil becomes less and less, until at length they are so much reduced as to be no longer sufficient to maintain the growth of plants, and the soil is then said to be exhausted.

To restore the fertility of such an exhausted soil, vegetable matters or the dung of animals, which consists, to a large extent, of partially decomposed vegetable matters, must be returned to the soil and herein lies the simple, the oldest, and the most generally employed method of manuring, and the only one possible, so long as the principles on which a manure acts were unknown. But now that the progress of scientific knowledge has enabled us, in place of considering farm-yard manure as a whole, to estimate the advantages derived from each of its numerous constituents, we have come to see that it may not in all cases be an indispensable manure, but may, to a certain extent, be replaced by other substances. In fact, when we inquire more minutely into the cause of the diminished fertility of a soil from which a succession of crops have been removed, it is found rarely to depend on the general exhaustion of all the requisite elements, but most commonly on the deficiency of one or more substances which have been removed by a certain number of crops, while the others still remain in sufficient abundance. And hence the fertility depends not so much on those substances which are abundant, as in those which are most deficient, and the absence of which renders the others useless, the plants cannot grow without an adequate supply of all their constituents. A soil in this condition does not absolutely require farm-yard manure, but may be again made to produce abundant crops by the application of the one deficient substance, which is then called a special manure. When so treated, a soil will retain this renewed fertility for a certain time, but at length becomes again fertile, even under a continued application of this manure, which is then said, in ordinary language, to have lost its effect, although the real reason is that the supply of a second constituent has been exhausted, and it also must be supplied in the form of a manure.

In all that precedes, we have supposed it to be required merely to keep up a certain moderate fertility, such as an ordinary soil may be supposed to possess in a state of nature. But agriculture does a good deal more than this, and seeks to produce a larger amount of vegetation than the natural soil can do, without extraneous aid—an effect which may manifestly be always produced by supplies of farm-yard manure, sufficient to afford a superabundance of all the different constituents of plants. But it is obvious that we may succeed equally well without it, if, as will frequently happen, some of the constituents be abundant, and their utility be limited by the deficiency of only one or two. Thus, for instance, we may conceive a soil containing a superabundance of all the mineral elements of the plant, but no ammonia or other nitrogenous matter, in which case the produce will be limited by the quantity of ammonia which the plants can obtain from the air during the period of growth, and may be greatly increased by a special manure containing nothing but that substance; so, likewise, it may happen that even where farm-yard manure has been applied in very large quantity, the addition of a special manure may still be advantageous; because as ordinary dung consists of the constituents of plants, minus those substances which have been retained by the animals which fed upon them, it may be desirable to supplement the deficiencies so produced; or if the crop to which it is applied happen to require an unusually large quantity of any particular element, it may be advisable to add an extra quantity of that substance, so as to bring out the full effect to its other constituents.

It cannot fail to be observed that, according to the definition now given, there is a very important distinction to be drawn between a general and special manure. When the former is used, all the constituents of plants are added to the soil; and not only is its fertility maintained, but if they be used with sufficient liberality, its productive capacity may be materially increased. Whereas, on the other hand, a special manure adds nothing to the permanent fertility of the soil, but only renders its existing constituents more rapidly available, and hastens rather than defers its exhaustion. Such, at least, would be the case if special manures were employed alone, a method rarely practised, and which, in my opinion, should be scrupulously avoided, except under very special circumstances. But if special manures be employed along with farm-yard manure, the result is different. A given quantity of the latter can, of course, produce only a certain amount of crop; but if mixed with a special manure, it is more rapidly converted into vegetable matter, and this is advantageous to the farmer. It may be urged that this is a matter of little moment, and that sooner or later the farmer receives back what he has put into the ground. But this is not the case; during six months of the year manure lying in the ground is undergoing decomposition, although there are no plants to make use of it, and the constituents then set free are in part at least washed away and lost. Even if none of it were lost, it would not be altogether a matter of indifference; for, to take an extreme case by way of illustration, if we suppose a part of the manure to remain undecomposed for fourteen years after its application, it will, if only five per cent. interest on its price be reckoned, have cost the farmer twice as much as that which was consumed during the year of its application. While, therefore, I consider the use of special manures alone a most injudicious and short-sighted policy, which can rarely be employed with advantage, there is no question that their proper combination with farm-yard manure is really one of the most important improvements ever introduced into the practice of agriculture.—*Dr. Andersen, in a Paper, read before the Highland Agricultural Society of Scotland.*

## ENGLISH BREEDING STOCK FOR AMERICA.

About two months ago, Dr. Johns, Captain Brown, and Mr. Jacoby arrived in Liverpool, as a deputation from the Illinois Agricultural Improvement Society, for the purpose of buying horses, bulls, heifers, sheep, and pigs, to be taken to Illinois. Since their arrival they have visited most parts of England, Ireland, and Scotland, for the purpose of purchasing stock. They attended the exhibition of the Royal Agricultural Society at Dublin, where they purchased four bulls, four heifers, thirteen pigs, and some sheep, all leading, and indeed first-class prize takers, and for them they paid very large prices. The animals have been for some time in Liverpool at Mr. Bell's establishment, the Adelphi stables. They are splendid specimens, the cattle being all of the short-horned breed. The three gentlemen first named have now, after much difficulty and expensive travelling, nearly completed their purchases, and the animals are in course of arriving in Liverpool daily. They experienced very great difficulty in falling in with entire horses of the highest class, three of which, thorough-bred, they wanted, and for which they were prepared to pay as high a price as 1800 guineas each. When the purchases are all completed there will be about thirty-five head of cattle, four horses, twenty-five to thirty sheep, and from twenty-five to thirty pigs. There will also be a number of agricultural laborers, with their wives and families. Some idea of the value and extent of this shipment may be formed from the statement that the freight for the 'tween-decks alone is £800, and that fully double that sum will be expended in provisions and fitting up stalls and pens for the animals for conveying them to Philadelphia; while a still further large outlay must be incurred in forwarding them from that port to their place of ultimate destination.

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The Gloucester Farm and Town Association, composed of Germans, have located a colony called "Egg Harbor City," in South Jersey. The total amount of land in the colony, is 28,000 acres; which is divided into farms and city lots, in which over 2000 settlers have taken an interest.

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Extraordinary Sale of Ram Hogs at Lincoln Fair.—73 ram hogs, the property of Mr. Robert Howard, of Dunholme Lodge, Lincoln, were sold by auction by Mr Briggs, which averaged the immense sum of £7 5s. each. The best pair were sold to Mr. Stevenson, of Rainton, at £20 each; another pair to Mr. Minta, of Normanton, at £16 each; others, at high prices, were sold to Mr. Banks Stanhope, M. P., Mr. Cartwright, Mr. Simmons, &c.

## CORN CULTURE.

Corn is undoubtedly the most valuable and important crop of the United States. It makes our bread and our pork; it feeds our horses, our cattle, and our poultry. In fact, everything eats corn. Great quantities are consumed in the manufacture of whisky; and within a few years it has been largely exported. A great portion of the territory of the United States is well adapted to the production of this valuable grain. It is important, then, that its culture should be good and practical. The crop might be immensely increased by a little more attention to proper planting and management. It has been raised so easily on the fertile lands of the West, that numbers of farmers have bestowed little attention to the preparation of the soil, or exclusion of the weeds. A slight plowing, and one or two careless dressings, has been considered sufficient to insure a good yield. This answered a very tolerable purpose while the ground was fresh and unexhausted; but it will not do where continued crops are expected to be raised.

To insure success, the ground should be very deeply and thoroughly plowed, and well pulverized with the harrow, to make the soil as mellow and fine as possible, to a depth of at least seven or eight inches—the deeper the better. Clayey soils are greatly benefited by being plowed in the fall, and subjecting as much of the sub-soil as is possible to the action of winter frosts. The action of the frost seems to destroy its tenacity, causes it to pulverize more readily, and therefore fits it better to nourish the growing plant. Besides, ground well plowed late in the fall, is much less likely to be injured from *washing* by the heavy rains which usually fall during the winter, and from which causes rolling lands are sometimes very materially injured. Ground that has had a fall plowing, and not been trodden by stock, turns up in the spring in fine condition for the ensuing crop, and I am satisfied the expense is a good investment.

When the ground is thus well prepared, it should be laid off *both ways*, for convenience in cultivation. Let the furrows be as light and straight as possible, and four feet apart. As the crop is sometimes overtaken by frosts in Autumn, it is desirable to plant early—say as near as may be the first week in May, in this latitude. The finest and most plump ears should be selected for seed, always giving preference to such as have long kernels and small cob, excluding the tips of the ears. Thirty-six or forty hours before planting, put the seed corn into a vessel and cover with water about milk warm. Let it stand in this condition about twelve hours; then pour off the water, and set it in a warm place to swell, putting some old rug or cloth over it to prevent its becoming too dry. Let it stand in a mass in this situation until the sprout is about to start, and then plant it. Cover lightly, unless the ground should be dry, in which case one and a half to two inches of mould, as fine and moist as possible, should be put on. The trouble of thus soaking the seed is but trifling. It will show whether it is likely to germinate well, will bring forward the crop about one week earlier, and expose the seeds for a much shorter period to the ravages of vermin.

The above preparation is particularly advisable when re-planting becomes necessary, and is important to bring the plant forward rapidly. I have planted with the sprouts half an inch long. If covered lightly in this condition, it will come up in three or four days in warm weather. Care must be taken in dropping. Avoid putting any thing on the hills but fine mould. If sods or lumps are placed on the seeds, the plants will come up crooked and twisted, and never form good stalks. Four to six grains may be dropped in a hill, which should be reduced to three on the first dressing, leaving such plants as are most vigorous, and stand well apart. In fact, pains should be taken to have the grains scattered when the seed is dropped, so the stalks may have room to grow without intruding on each other.

So soon as the plants are sufficiently large—say from four to eight inches high—the work of *tending* should be commenced. If the ground be weedy, so much attention with hoe and fingers must be bestowed as will remove all those inveterate enemies to a good crop. It is all important that the ground be kept loose and clear. The last time it is *worked*, a plow should be used, running the furrows north and south, if practicable, throwing the soil well up the hills, though not plowing very deeply. This will greatly protect the stalks from being blown over by summer storms, particularly strong winds, which are often very disastrous where level culture is adopted.

A while after the crop is laid by, some weeds will spring up in the best tended fields. These should be promptly destroyed before the seeds ripen. It is much more easy to destroy the parent than all its progeny. If suffered to go to seed, weeds will be plentiful and troublesome in the ensuing year.

Little need be said in regard to harvesting. Corn differs from all other grain. It is so well protected by the husks, it will not be materially injured by remaining in the field for weeks after it has ripened. This gives the farmer an opportunity of attending to it at his leisure. It is a good plan, however, for those who have stock to feed, to cut up a part or all of their crop for this purpose. The best mode is, to place in the ground, at suitable distances for good sized shocks, three stalks, in a triangular form, at three or four feet apart. Bring the tops together and tie with strong string; then with a corn-knife cut the stalks off from eighteen to twenty-four inches from the ground, and set them up around the stakes. When the shock is sufficiently large, tie the tops together with a strong string, to prevent their falling, or being blown down. About a week afterward, when the stalks have shrunk, these strings should be tightened up. Shocks put up in this way will stand until March without any material injury; and if well put up will never blow down. Care should be taken, however, that the stakes are well set in the ground; and as it is usually hard at that season, a crow bar will be necessary. On the proper setting of the stakes much of the security of the shock will depend. Corn thus put up should be cut so soon as the ears are sufficiently ripe not to sustain much loss by shrinkage, and while most of the blades are still green. The usual time is from the 10th to the 20th of September.

It should not be shocked in the field and the fodder left exposed to the weather, as is often done. Cattle will not eat it after it has been wet. It may be hauled in dry weather during the winter as wanted, but should be placed in a barn or under shelter. Treated in this manner, it furnishes excellent fodder, and stock may be wintered on it pretty well (except milch cows), with very little other food. The shocking can thus be done during the leisure months of winter, as the feed is wanted.

Some may think this *painstaking* culture is unworthy of attention; but they are mistaken. The additional labor beyond that ordinarily bestowed, is really not great. The taxes, the fences, the interest on the investment of land, etc., is all the same, whether you make a good crop or a poor one. If, therefore, you add ten per cent. to the labor of producing, and get twenty-five per cent. more crop, the investment is a good one by arithmetic.—*Ohio Valley Farmer.*

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The Royal Agricultural Meeting for 1858, it has been decided, shall be held in Chester, agreeably to the request of the agriculturists of the Northern district.

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HOW TO BEHAVE; A Pocket Manual of Republican Etiquette and Guide to Correct Personal Habits. Embracing an exposition of the principles of good manners; useful hints on the care of the person, eating, drinking, exercise, habits, dress, self-culture, and behavior at home. Price, post-paid, paper, 30c., muslin, 50c. New York: FOWLER AND WELLS, 308 Broadway.

## LAMENESS FROM CONTRACTED HEELS.

A correspondent of the Working Farmer, gives the following advice as to the treatment of this malady. He says:

"About six months since I adopted a plan for the cure of this complaint, which has been so successful in three cases that I am disposed to communicate it. My opinion is, that nine-tenths of the foundered horses are made so by the shoer. For a number of years my horses were shod by one man, who fitted his shoes very carefully—opened the heels handsomely by trimming the frog and the heel of the hoof; and thinned the sole nicely, taking off all appearance of bars—making the shoe nearly straight from the ball of the foot to the heel. First, one horse became lame in one foot, then in the other; soon another one became lame, and in spite of all our experiments, the third one was beginning to show the effects of this shoeing, when I changed the practice. Now the two latter are perfectly sound; and the first one, that had become so bad that it was painful to drive her even upon a walk, is so much improved that she feels and acts like a different animal. Now for the plan.

"Pare the foot pretty close; thin the sole in front of the bars, but cut no more off the bars than that the shoe may not press upon them; fit the shoe to the shape of the foot, making it come fairly under the heel of the hoof and as wide as you can have it and get the nails in. Do not open the heels—at any rate *cut nothing from the frog*, whether ragged or not; if you choose you may take a very little from the heel of the hoof where it comes in contact with the frog, but the practice is questionable. I think the bar and the frog are intended to keep the heels apart; therefore, save all the strength you can in the former, and do not disqualify the latter from accomplishing its object by putting it away so that it cannot come in contact with the heels. Now cultivate the growth of the frog by applying daily either soap and tar boiled together, or soft soap, or urine, which I think best of all. Take up the foot, clean it out carefully, and make your application to the sole of the foot, the frog, and the heel. Standing in mud of blue clay for a few hours every day, is excellent."

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RHUBARB PIES WITH LESS SWEETENING.—A correspondent, who feelingly sympathizes with us in our complaints of the high price of sugar, says that rhubarb pies can be made with a great saving in sugar by the following process: After preparing the rhubarb in the usual way, put it in boiling water for fifteen minutes, and then repeat it. It will improve the rhubarb, and save a third of the sugar. —*Providence Journal.*

## MAN WILL INDULGE IN POISONS.

It is stated that there are 600,000,000 of human beings who use tobacco, and that the world produces annually 1,480,000,000 pounds of this fascinating and poisonous weed. Opium eaters number about 100,000,000; Indian-hemp eaters, 150,000; butternut eaters, 100,000,000; cocoa eaters, 10,000,000. The value of these articles consumed, to say nothing of coffee and tea, is computed at $300,000,000 per annum. Suppose we add strong drink, what a frightful aggregate of expense we would show. Hard times would cease, if man would cease to poison himself.

## HOW TO DESTROY CATERPILLARS.

Permit me to say a single word to every reader of yours who owns an apple tree.

No person can honestly call himself a farmer, or a horticulturist, who permits a single nest of these destructive insects to infest his trees. He is neither honest to himself, nor to his neighbors.

Caterpillars seldom leave their nests to feed before 9 o'clock, A. M. They enter at noon, and leave again in the afternoon.

Many plans are suggested for their destruction. Not long since, a farmer came into this city purposely to purchase a gun in order to blow up their nests with powder—a useless expense and waste of time, since he would merely scatter, not destroy them.

The editor of the *New England Farmer* recommends a stiff dust-brush on a pole, but in this way a large proportion of them are merely dislodged.

The plan which I have practised for years with complete success, is simple and cheap. In fact it pays for itself over and over again in the very operation.

Attach a small swab to the end of a light pole of convenient length, and procure a sufficient quantity of whale or train oil, such as is used by tanners. While the worms are in their nests, dip the swab in the oil, and rub it around the limb of the tree just above and below the nest, and then rub the nest itself with the swab. This operation should be performed just as the nests become visible on the trees. The effect is magical. A whole orchard may be gone over in a short time with little labor, and absolute certainty of the entire destruction of all caterpillars in the nests thus treated.

Unity of action in this respect among the adjoining proprietors would rid a whole neighborhood of this destructive and *disgraceful* pest in two or three seasons at farthest.

R., *in the Homestead.*

*New Haven*, June, 1857.

INTRODUCTION OF ALPACA SHEEP INTO NEW SOUTH WALES.—Mr. C. Ledger, of Cachi, is endeavoring to introduce Alpaca sheep into New South Wales. He writes that "he has actually succeeded in getting out of Bolivia a large flock of Alpacas;" that in October last "he had more than 300 Alpaca sheep far advanced on the road to Coppiopo;" and that "in April (last month) he had no doubt they would be on their voyage to New South Wales." A few of the difficulties of Mr. Ledger's undertaking may be mentioned: The Alpaca sheep are to be met only in the Cordilleras of Peru and Bolivia. The Peruvian Government, in 1846, and, afterwards, the Bolivian Government, issued a decree prohibiting the exportation of those animals; and active measures were adopted, by authority, to destroy any flocks found on their way to the territory of the Argentine republic. Mr. Ledger had to drive his flock about 400 leagues, (three leagues being a day's journey,) and after every ten days of journeying, a rest of a month was necessary; besides which the passing of the difficult ranges of Cordillera could only be affected at certain seasons. His losses, he writes, have been enormous, but not so great as to cause him to abandon his scheme.

## STATE FAIRS, FOR 1857.

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| Ohio | Cincinnati | September 15—18. |
| Canada East | Montreal | September 16—18. |
| Illinois | Peoria | September 21—26. |
| Pennsylvania | | Sept. 29, to Oct. 2. |
| Vermont | Montpelier | Sept. 30, to Oct. 2. |
| Wisconsin | Janesville | Sept. 29, to Oct. 2. |
| United States | Louisville, Ky. | October 1—6. |
| Indiana | Indianapolis | October 4—10. |
| New York | Buffalo | October 6—9. |
| Iowa | Muscatine | October 6—9. |
| Michigan | Detroit | |
| New Hampshire | Concord | October 7—9. |
| Kentucky | Henderson | October 12—16. |
| Connecticut | Bridgeport | October 13—16. |
| East Tennessee | Knoxville | October 20—23. |
| Massachusetts | Boston | October 20—24. |
| Maryland | Baltimore | October 21—25. |
| West Tennessee | Jackson | October 27—30. |
| Virginia | | October 28—31. |
| New Hampshire | Concord | |

The trial of Reapers and Mowers by the Ohio State Board of Agriculture, at Hamilton, Butler county, July 1st, 1857. Premiums, $50; and $30 each for Reaper, Mower, and Reaper and Mower combined.

A sample of 158 mangold wurtzels, weighing 1¼ ton, and averaging 17½ lbs. each, was exhibited in the Lincoln Corn Exchange, last Friday, on the stand of Mr. Horner. They were grown from Odams' blood manure, by Mr. Joseph Weightman, of Winthrop, near Newark.

## SHADE TREES AROUND DWELLINGS.

Shade trees of houses are beautiful, but they never should be so closely planted as to exclude the bright sunshine, and thus cause dampness in the dwellings. When trees spread out their broad arms, and prevent "old Sol" from sending his cheering rays into every room in a house, their branches should be thoroughly pruned, or every intermediate tree cut down.

Dr. Hall, in his *Journal of Health*, says respecting light:—"No room without the glorious sunshine is fit for any living creature—man or beast. The glorious sunshine, the free and bounteous gift of a beneficent Creator, is the source of all buoyant, healthful life."

A correspondent of the *Southern Cultivator* states that a friend of his had a large number of the barren mulberry trees growing in his yard, and casting such a dense shade that the rays of the sun never reached the ground. He called his attention to this, and advised him to remove every alternate one. This was not done; they were allowed to stand. That season he lost his wife and three children by sickness. The correspondent referred to attributed this sickness to the dampness in and around his friend's house, caused by the deep shade of the trees. His inference is probably a correct one, for a free admission of cheering light can never be excluded from any house by shade trees (or anything else) but at the peril of health. In this place we also advise those who have shade trees around their houses to be very careful at this season to sweep up blossoms and pollen which fall upon the ground and remove them to a distance, for all decaying vegetable matter in the neighborhood of dwellings engenders miasma.

## THE MAPLE SUGAR CROP OF 1857.

The *Albany Argus* estimates the maple sugar crop of the State of New York, for the present spring, at 20,000,000 pounds, the total value of which, at twelve and a half cents per pound, (a low estimate,) is $2,500,000. The same paper estimates the whole crops of the Union at 68,500,000 pounds, valued at $8,562,500—making the quantity and value very nearly equal to one-half of the cane product of last year—and contributing, in a very important degree, to relieve the last year's deficiency.

Glycerine, we learn from the *Edinburgh Medical Journal*, is being extensively and successfully employed as a substitute for cod-liver oil. It has the recommendation of being much more agreeable to take, being of a sweetish flavor.

## NOTICES FROM FOREIGN AGRICULTURAL JOURNALS.

TRANSLATED AND ARRANGED FOR THE COUNTRY GENTLEMAN.

### Large Beet Crops.

The distinguished French agriculturist, AUGUSTE DE GASPARIN, has communicated to the *Journal d'Agriculture Pratique* an account of an experiment in the cultivation of the beet, which is so instructive that it deserves to be transferred to our columns. The experiment was made on about one-fourth of an acre, and the yield was at the enormous rate of 127 tons (of 2,000 lbs.) per acre. To produce such a crop, the author says, "It is necessary to observe eight conditions, viz.:

"1. Deeply trench the soil.

"2. Manure largely.

"3. Crowd the plants to a distance of not more than a foot from each other.

"4. Irrigate the land every fourteen days when it does not rain.

"5. Hoe after each rain or irrigation.

"6. Trim down all plants that begin to go to seed.

"7. Remove no leaves for fodder, as is often done.

"8. Leave the beets in the ground until the end of November, or until the course of vegetation is finished."

The author remarks with regard to these conditions, as follows:

"1. The deep tillage allows the plant to attain its utmost development so far as length of root is concerned, and probably also in all its proportions.

"2. Seven hundred cubic feet of good stable manure and three cwt. of rape-cake, were applied to the trial-plot of about one-fourth of an acre.

"3. The seed were sown on the first of January in a hot-bed, and in April at the usual time of sowing, plants as thick as the finger were set out in the field. This early planting is very essential for the highest success. When the beets were dug they had been in the ground during a vegetating period of nine months, and as the roots acquire a new concentric ring every fourteen days, they had eighteen rings in all, or six more than those sown at the usual time; and since these six rings were the outer ones, the volume of the beet was more than doubled.

"4. Since the roots of the beet do not spread far, laterally, the plants may be grown very thickly. The author observed that when from fault in sowing two seeds fell into the same hole, the plants were nevertheless as well developed as the others.

"5. Irrigation is indispensable for growing the heaviest crops. During the last two seasons, when it was not possible to irrigate, the yield was much smaller. Nevertheless a certain care is needful in the use of water, as if it be applied too copiously, the beets are apt to be hollow.

"6. It is necessary to stir the ground after irrigating, since the sun and wind dry and bake the surface; however, after three hoeings the foliage becomes so dense as to cover the soil completely, so that a fourth hoeing is very difficult to perform. At this point of growth the necessity for hoeing ceases, since the surface of the soil and roots are protected from the sun and wind. Plants of so early growth are apt to run to seed, but if the flowering stem be broken off the roots continue to increase like the others.

"7. Stripping off the leaves, especially if this is done during the dog-days, arrests the development of the plant.

"8. The roots should not be pulled until November, after all growth has ceased. The roots double their dimensions during October and November, if the weather be warm.

"Such is the secret of producing beets at the rate of 127 tons per acre, or 2,100 days' rations for any domestic animal. I have found that small cows never consume more than 120 pounds of beets per day, and that with this allowance they grow fat."

The following sentence has a significance for many parts of the country. "I rejoice at the noise my experiments have made, because here in the south of France they will long remain the only ones of the kind; here where cattle-keeping appears to be more and more neglected in order to devote the soil to the production of commercial plants, (tobacco, flax, &c.,) whose culture can only be continued by the help of commercial fertilizers."

The author continues: "At my instance this plan of early transplanting has been adopted at the Ag. Reform School of Mettray, and the first trial resulted in doubling the usual crop, although no manure was applied. My brother saw at Grenoble a field of beets cultivated in the same manner. The roots had an average weight of thirty pounds, (14 kilogrammes,) so that calculating there were only 8,000 plants to the acre, the yield would be no less than 124 tons. This was in September. There was still to form at least four new rings on each root, so that the final yield must have exceeded mine, and this was on the large scale.

"In a warm climate, then, by heavy manuring, irrigation, early transplanting, and good tillage, such results may be procured. Where the vegetative period is shorter, where there is less warmth and less water, and where a frequently beclouded sky hinders the solar radiation, the produce will not, of course, turn out so high.

"The point of production I have reached, however extraordinary it may appear, is not the limit. On the banks of the canal of St. Gilles, in the region so celebrated for its prodigious wine crops, a beet has been grown weighing 132 lbs. (60 kilos.) How many such are required to weigh 500 tons? Can we not study out, and then work out the condition for such a phenomenon?

"We are having here, on this question, such a discussion as has come over to us from England, where many persistently discredit the wonderful stories about the yield of Italian Ray Grass. The timothy-growers cannot account for the crop of fifty tons per acre (Scotch); but when I see all the care in cultivation, the showers of liquid manure, the perfect drainage, and the use of steam power, I am not difficult to be convinced of the truth of these assertions. The Englishmen have brought their plant from the extreme of Italy; have put under contribution the energetic vitality of the South, and have united it to the industrious activity of the North."

The plan of transplanting root crops from hot-beds, originated with Mons. Koechlin, and was practised by him in Alsatia. He is said to have obtained on ground "perfectly prepared," beets averaging 17 kilos, =37½ lbs., and a total yield of 156 tons per acre! Raising the young plants in a hot-bed is no impracticable thing. It is easy to arrange an artificially heated bed, and the seeds can be sown so thick that forty square feet will furnish young plants for an acre.

The English farmers, as I saw in Gloucestershire, are in the habit of transplanting cabbages, in order to occupy ground from which summer crops had been taken.

The average root-crop of England is about 25 tons, (turnips, carrots,) to 30 tons per acre (beets). We have now authenticated instances of four, five, and even six times these products. Who can doubt that it is cheaper to gather large crops from a small well-tilled surface, than medium crops from a larger area?—*Country Gentleman.*

## FRENCH SUPPLEMENT TO A STOCK SHOW.

A somewhat characteristic mode of testing the merits of the various prize animals at the recent fat stock show at Poissy, near Paris, was adopted by the jurors of that exhibition. After the animals had been slaughtered as required by the regulations under which the exhibition took place, and the weight had been ascertained, the jury were entertained at a dinner in which portions of the various prize animals were served up, the "object being to test which breeds give the best quality of meat." The flesh of the first prize animals was selected to undergo the ordeal. A portion of each animal was cooked separately; the time taken to make ready, the weight before and after cooking, &c.. were gone into with considerable minuteness. The writer in the *North British Agriculturist*, from whom we take the particulars of this novel agricultural competition, says: "Those who have not paid much attention to this subject, esteeming meat simply as fat or lean, would be astonished at the difference in the taste of the soups, and of the meat from which they were prepared, were they to make the experiment. They would find that the flesh of certain breeds is better adapted than that of others for boiling—others for roasting." On each dish the jurors came to a division, which was often very close, seven to seven, the votes being taken by a show of hands. Each juror took notes by the numbers—the number being the only distinguishing mark. The votes were put after each division of soups or meat was partaken of. First came the trial of soups, of which eight specimens were prepared from the flesh of oxen, English and French. The soup made from the Duke of Beaufort's prize short-horn ox was considered by a majority to have made the best soup. So the best boiled meat, that from which the soup had been made, was considered to be that of the same ox. Next was the trial of roast pork; and the first quality was found to be that from a cross of the new Leicester pig with a French breed called Angerou. Then came roast mutton, of which eight sorts invited the trial of gastronomic discrimination. The Cotswold was placed first, though the competition was very close, the first division being equal, one juror on a second division giving his adhesion to the Cotswold roast. We think this quite right, for though in this country it is the fashion to like the darker-fleshed mutton, an unprejudiced taste must, we think, prefer the Cotswold, which produces much more lean meat than the Leicester, to all other breeds. We should notice that the reporter, obviously a Scotchman, demurs to the mutton decision. Last of all was the trial of roast beef, of which there were no less than 13 specimens, "all very good, requiring on the part of the jurors more than ordinary balancing of points of merit." Nor was the difficulty of the final trial lessened by the circumstance of "the appetite being somewhat palled by the food previously partaken of." Indeed, giving all credit to the small portion only from each dish of which it is the French custom to partake, we can scarcely understand how the jurors could have undergone the labor of devouring even a mouthful from each specimen. And yet we learn that between each trial course there intervened some non-competing course, such as fish, fowls, sweetbreads, asparagus, and so forth. The roast beef had been cooked "before a small grate containing charcoal, with a bachelor's oven behind;" and the color of several of the roasts "was not good." Some, however, "would have gratified the taste of the most fastidious epicure." The following are the results:—The West Highland ox of the Duke of Beaufort was first; the Devon ox of the Earl of Leicester, second; the Charolaise, third; the cross ox of Mr. Dudgeon, short-horn Angus, fourth; Mr. M'Combie's ox, Angus, aged, class fifth; the Limousine, sixth; the Duke of Beaufort's short-horn ox, seventh; Parthenais, eighth. The others were not classed. Probably the testing power of the jurors had by this time been overpowered. It is said, "after voting on the roasts, which was attended with considerable excitement, each juror appeared to acquire increased confidence in his judgment and taste as the testing proceeded." The dinner concluded with fruits and pastry.—*Economist.*

## THE STEALING OF FRUIT.

The purloining of fruit has become so common and extensive in all populous sections of the country, and especially in the suburbs of our villages and cities, as to render it eminently worthy of Legislative action. Much of the evil, which is annually becoming of greater magnitude, is the result of the lax public sentiment which has so long prevailed throughout the country on the subject, a sentiment so accommodating that one would suppose the injunction "Thou shalt not steal," was not intended to apply to fruit, however choice or highly prized. Indeed, (in the language heretofore used in this journal,) "so utterly at fault is public sentiment, that many who have depredations committed on their fruit hesitate to prosecute the offenders, when discovered, fearing that such a proceeding would hardly be sustained by the community. Now, we submit that this is all wrong—that there is no good reason why the fruit thief, who prowls about in the night, when honest people are asleep, for the purpose of plundering fruit-gardens and orchards, should not be held up to the scorn and contempt of the community, and placed in the same category as the sheep-thief, the robber of hen-roosts, and the burglar." We trust the public will not only frown upon the reprehensible idea that it is not criminal to steal fruit, but that the people will ask their representatives—the law-makers of the State—to take such immediate action in the premises, as the great and growing evil justly demands. The criminal practice (for we insist that fruit-stealing is a crime, and should be punishable as such) not only causes much loss and vexation to growers of fruit, but undoubtedly deters thousands of people in this State (and in others) from attempting its cultivation. In truth we know many in this city and vicinity, who possess plots of ground admirably adapted to fruit, and would delight in its culture, who are deterred from the attempt solely on this account—people who entertain the well-founded belief that all their care and expense would indeed prove fruitless. The evil not only affects those who possess pecuniary ability, and would engage in fruit culture as a pleasure, but is a positive damage to many persons of limited means, who could, were it removed, derive great benefit from this branch of industry and production. Indeed, all classes are affected to a greater or less extent, and we are surprised that the public does not rise, as one man, in condemnation of a nuisance which is fast becoming too outrageous to be longer endured.—*Rural New-Yorker.*

From the Southern Planter.

## MORE ABOUT OSAGE ORANGE HEDGES.

Cake Mines, Henrico, April 23, 1857.

*To the Editor of the Southern Planter.*

As there seems to be some difference of opinion as regards the fitness of the Osage Orange as a hedge plant, I beg sufficient space in the columns of your valuable magazine to give my experience on the subject.

In April, 1854, I purchased of Gen. Richardson, and planted out one thousand one year old plants, opening a trench with a two-horse plow in the centre of a five-foot bed, previously plowed. In this trench I set the plants, pressing the soil very firmly to the roots, spread stable manure liberally in the half-filled furrow, threw sufficient earth to the plants with the plow, on each side, to give a slight bed to the row, and left them. By careful examination to-day, I find that *only four plants in the thousand failed to grow off vigorously.* During the summer, I gave the hedge one thorough weeding with the hoe. In the spring following, and each spring since, I have trimmed them severely and given them one hoeing. Next fall, I shall remove the plank enclosure that preceded the planting of the hedge, and all trespassers, biped and quadruped, that can pass my hedge shall be welcome to all it encloses.

In the spring of 1855, in a very hot and dry spell in May, I planted a second hedge of one thousand plants, taking the simple precaution of dipping the roots in a puddle of clay and horse dung intimately mixed, before setting them; and even at this late period, I lost very few plants, not twenty in all, and their progress thus far has equalled my first experiment. A third experiment of a few hundred last spring has furnished another evidence of the remarkable vitality of the plant, its almost infallible certainty to stand, its great thriftiness, and its defiance of intense cold.

I am inclined to think that those who have failed to secure a regular stand of Osage Orange, when using one-year old plants, or who have failed to raise a vigorous hedge in four years, at furthest, must have sadly neglected that moderate but indispensable attention which is required.

Our people are unfortunately too much given to conclude that where they have planted a perennial, they have fulfilled their part, and the plant must accomplish all else. This is emphatically true with the whole class of fruit trees and vines, in nine cases out of ten, and I suppose it is so with the Osage Orange. I will here remark, in passing, that a very common error in transplanting trees, shrubs, and vines, is to plant manure in actual contact with the roots. This is always detrimental, and, in a very dry season, is often fatal. Well pulverized earth, unmixed with anything calculated to make it very porous or spongy, should be brought into close and firm contact with the roots, and the manure, if any is required, should then be applied.

As to the tendency of the hedge to draw severely upon the adjacent strip of land, I can only say that I have observed no difference between the growth of vegetables in parallel rows five feet from the line of my hedge, and the growth of others more remote. I should think that deep coultering with a cutting edge within four feet of the line of the hedge every spring, would prevent the lateral roots from poaching too much on the field, and at the same time arrest the growth of the Orange when its tendency is towards too robust a stature.

The increasing scarcity and enhancing value of timber for dead wood fences, and the inaccessibility of stone for that purpose, gives an increasing interest to the subject of live hedges, especially in Eastern Virginia; and it is to be hoped that the partial experiments now being made with the Osage Orange will receive the little patience and attendance which my experience assures me is alone necessary to secure its general adoption for that purpose. As I deem it a good rule for writers on practical subjects to give the sanction of their names to what they offer to the public,

I subscribe myself,
Very respectfully, your ob't serv't,
JOHN J. WERTH.

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The hardest granite is easily cut by a new method, viz.: A wire running at a high velocity over the surface which is to be bisected;—by dropping on it a mixture of sand and water, the operation is rapidly completed.

## NEW FORKING MACHINE.

The daily journals of this city give more or less extended notices of a new machine for forking the ground, invented by DR. O. C. EVANS, of Ohio, and known as "Evans's Rotary Digger." It was tried, recently, at West Philadelphia, in presence of several persons interested in agricultural pursuits, and seems to have met their approval. We were not present at the trial, which we regret; but the theory of its mechanism, and the principle involved, which was explained to us, no less than the judgment of others, lead us to believe that there is an implement at last by which the ground will be thoroughly pulverized at one operation, with a moderate motive power, and without surface and subsoil plows and harrows. At all events, be this belief just or not, the want of such an implement is great; and "Evans's Rotary Digger" merits a careful consideration of its merits. The *Inquirer*, after some preliminary remarks concerning the cost and trouble, under ordinary circumstances, of breaking the soil, speaks of the new machine, and says:

"The teeth or tines, instead of being permanently fixed to a cylinder or wheel, are attached to an endless chain of peculiar construction, which revolves upon a drum. In order that the teeth may enter the ground on an inclined plane, each chain passes in front over a cylinder. To keep a sufficient number of teeth inserted in the ground for the purpose of resistance, as well as to raise the hinder teeth successively, and the ground with them, a small roller is used behind. The number of drums varies according to the width of the furrow desired. When the ground is in a fit condition to plow, it will evidently be driven in a shower behind, broken into a fitting fineness, and rendered capable of being permeated by the finest rootlet.

"The trial on Saturday was witnessed by a number of most intelligent practical farmers. The ground was perfectly water-soaked by the previous heavy rains; little pools of water lay in the field; and there was an unnecessary weight in the machine itself—a mere experimental one. Nevertheless, it did its work very well; and the opinion of those present seemed to be that its principle of action was not only novel, but correct; and that, when certain mechanical objections, easily to be overcome, were removed, it bid fair to revolutionize the whole system of breaking the soil. We look upon their

views as correct, not only from what presented itself to the eye, then and there, but from their better knowledge than our own of such matters. Anything that does so many more times the work of the older implements—cutting furrows from three to four feet, and pulverizing the soil beyond the depth of an ordinary plow, with only the same expenditure of motive power, must cheapen the cost, and therefore increase the amount of agricultural produce. We hope the ingenious inventor will present a machine—not a mere experimental one, but such as he intends to furnish for the field—at the State Exhibition, in order that farmers may judge readily of its value, and if they approve, embrace it."

From the Horticulturist.

## THE PEAR SLUG-WORM.

BY MISS MARGARETTA MORRIS, GERMANTOWN, PA.

The slug-fly is of a glossy black color, except the first two pairs of legs, which are dirty yellow or clay colored, with blackish thighs, and the hind legs, which are dull black, with clay colored knees. The wings are somewhat convex and rumpled or uneven on the upper side, like the wings of the sand-flies generally. They are transparent, reflecting the changeable colors of the rainbow, and have a smoky tinge, forming a cloud or broad band across the middle of the first pair; the veins are brownish. The body of the female measures rather more than one-fifth of an inch in length; that of the male is smaller. In the year 1828 these sand-flies were observed on the cherry and plum-trees, in Milton, Mass., on the tenth of May, but they usually appear towards the end of May or early in June. Soon afterwards some of them begin to lay their eggs, and all of them finish this business and disappear within the space of three weeks. Their eggs are placed singly, within little semicircular incisions through the skin of the leaf, and generally on the lower side of it. The flies have not the timidity of many other insects, and are not easily disturbed while laying their eggs. On the fourteenth day afterwards, the eggs begin to hatch, and the young slug-worms continue to come forth from the fifth of June to the twentieth of July, according as the flies have appeared early or late in the spring. At first the slugs are white; but a slimy matter soon oozes out over their skin and covers their backs with an olive-colored sticky coat.

They have twenty very short legs, or a pair under each segment of the body, except the fourth and the last. The largest of the slugs are about nine-twentieths of an inch in length when fully grown.

The head of a dark chestnut color, is small, and entirely concealed under the forepart of the body.

They are largest before, and taper behind, and in form somewhat resemble minute tadpoles.

They have the faculty of swelling out the forepart of the body, and resting with the tail up.

These slugs are mostly on the upper side of the leaves, and eat away the substance, leaving only the veins and skin untouched. The trees attacked by them are forced to throw out new leaves during the heat of the summer; this unseasonable foliage, which would not have appeared until the following spring, exhausts the vigor of the trees and cuts off the prospect of fruit.

The slug-worms come to their growth in twenty-six days, during which period they cast their skins five times. After the last skin is thrown off, they no longer retain their slimy appearance and olive color, but have a clear yellow skin, entirely free from viscidity. They change also in form and become proportionably longer, and their head and the marks between the rings are plainly to be seen. In a few hours after this change, they leave the trees, and having crept or fallen to the ground, they burrow to the depth of from one inch to three or four inches in the ground, according to the nature of the soil. By moving their bodies, the earth around them becomes pressed equally on both sides, and an oblong oval cavity is thus formed, and is afterwards lined with a sticky and glossy substance, to which the grains of earth closely adhere. Within these little earthen cells or cocoons the change to chrysalis takes place; and in sixteen days after the descent of the slug-worms, they finish their transformations, break open their cells and crawl to the surface of the ground, where they appear in the fly form. These flies usually come forth between the middle of July and the first of August, and lay their eggs for a second brood of slug-worms. The latter come to their growth, and go into the ground in September and October, and remain there till the following spring, when they change to flies.

It seems that all do not finish their transformations at this time; some are found to remain unchanged in the ground till the following year; so that if all the slugs of any one hatch should happen to be destroyed, enough from a former brood would remain in the earth to continue the species.

Ashes and quicklime, sifted on the trees by means of a sieve fastened to a pole, was recommended by the late Hon. John Lowell, of Roxbury, for the destruction of the pear and cherry slug-worm, and it is found to answer the purpose.

From the Valley Farmer.

## FARMERS' GARDENS.

Of all classes, the farmers in general, have the poorest gardens. Like some mechanics, whose families are generally very poorly served, if served at all, with the articles they manufacture. Farmers generally fall far short of the industrious mechanics found in villages and in the suburbs of our cities. Even the common laborer who has a small patch of ground only, is often much better supplied with vegetables than some farmers who cultivate their hundreds of acres and have the means and conveniences at hand to furnish their families with all the vegetables and fruits of a well cultivated garden; yet how very few raise anything beyond a few turnips, cabbages and potatoes. They seem to think every hour's labor expended in a garden so much labor lost.

It will probably not pay for a farmer to lay out an acre or two of land, and employ men educated to the business, to take care of it; but we aver that it *will pay* better than any other portion of the farm, to till one acre in the most thorough manner, to raise the fruits and vegetables he really wants for his own family. Laying aside the convenience, comforts and economy of having a good supply of vegetables, we have known more actual profits made from a few acres in a garden, than some farmers make from as many hundreds in a farm.

It is a reproach to the class as the feeders of the world, that their own families are not half as well supplied with fine fruits and vegetables as the mechanics and laboring men in the village. This should not be so.

But the universal or standing excuse is, that they are dependent upon field crops for their profits, and these, of course, must have all their attention, by which they mean that they have no time for the small business of sowing beds and keeping them clear of weeds. They do not believe it pays to cultivate such vegetables as are commonly cultivated in all good village gardens. They may have, to be sure, a small patch called a garden, but it is more abundantly stocked with weeds than anything else. It is so long neglected, both in planting and cultivating, that the weeds always get the start, and keep it through the season. The boys become thoroughly disgusted with it, and the term gardening is always associated in their minds, with weeding the onion bed and cutting pigweeds and purslain among the cabbages and potatoes.

There are some exceptions, we rejoice to know, as some farmers have turned over a new leaf in their book of operations, and have for a few years past cultivated a good variety of vegetables, and find it both agreeable and profitable to associate with their salt beef and pork—cabbage, parsnips, turnips, potatoes, &c.

A few dollars spent in this way, will give more satisfaction, and we venture to say, more profit than any other investment in seeds upon the farm. Try it, brother farmers, and see for yourselves.

C. N. BEMENT.

## A LARGE FARMER.

The conductor of the *Rural New Yorker* has lately made a visit to Hon. A. B. Dickinson, of Hornby, Steuben county, N. Y., well known as an extensive and successful farmer. The following extract from the sketch of our cotemporary, will give some idea of Mr. D.'s operations:—"Mr. D. has *thirty-five hundred acres of cultivable land*, all of which is, we believe, under his personal superintendence. To give some idea of the extent of his farming operations, we will take the liberty of stating two or three facts derived during a conversation with Mr. D. at the recent Sheep Show. He has recently sold 500 tons of hay, and has some 200 tons more on sale. Of his last year's crop of potatoes he has sold 3,000 bushels, and has some 3,500 bushels on hand. He is selling common potatoes at $1, and Bermudas (grown from last year's seed,) at $1.25 per bushel. Mr. D. proposes to plant 1,500 bushels of potatoes—on 100 acres of land—the present season. Among other farm products which he has 'over' and for sale in these times of scarcity, is 1,000 bushels of Buckwheat."

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*To the Editor of the Farm Journal.*

There is not a large city in the United States, or perhaps in the world, better situated for the command of all the necessaries of life than Philadelphia. There is in the immediate neighbourhood of the city the finest vegetable gardens cultivated by experienced gardeners, who bring their products to our market daily. Within marketable distance are thousands acres of the finest meadows and grass fields, capable of affording the means of supplying the richest milk, butter, hay, &c. And yet notwithstanding the facilities afforded to farmers to send marketing from a distance at comparatively little cost, prices for such articles rate very high. They would find it much more profitable to attend to producing articles for the market, than raising wheat in the vicinity of large towns.

Wheat and corn can be produced on lands further from market at better profit than where land is so high in price.

Hay is consumed here in great quantities, and has for several years brought very high prices, and is likely to continue so to do, unless the crop should be very heavy this season.

Let us have a greater supply of vegetables, milk, butter, and good hay from the country around us. All other supplies can be produced at a distance from the market to advantage and profit to the producer.

A. C.

*Phila., June* 8.

## OAK SILKWORMS.

The Imperial Society d'Acclimation, at Paris, has received from one of its members, the Bishop of Manchouria, 300 cocoons of the silkworm, living on the oak-tree in the north of China. These silkworms vary greatly, especially as regards climate, from those on the Indian oak-tree, of which the society has established already a little colony at the villa of one of its members, M. Chavannes, at Lausanne. Just at this moment, when the mulberry-tree silkworm is so much visited by disease, this new oak silkworm from Manchouria, which, it is expected, will thrive in the northern parts of France, and probably in England, is of the highest importance.

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## THE CHINESE SUGAR CANE.*

BY RICHARD PETERS, ESQ., ATLANTA, GEORGIA.

I feel it my duty to make known to the public the result of my Syrup-making from the Chinese Sugar Millet, in hopes that others who have sown this valuable variety of the Millet, may be induced to work it up into Syrup this season.

I obtained my start of seed during the spring of 1855, from D. Redmond, Esq., of the "*Southern Cultivator*." I considered it a "humbug," from its close resemblance in seed and growth to the "Guinea Cane," until my children, towards fall, made the discovery of its being to their taste equal to the true Sugar Cane.

This year I planted one patch, April 15th, another May 18th, near Calhoun, Gordon county, on land that would produce, during a "seasonable" year, forty bushels of corn per acre, and this year not over twenty bushels.

Seed sown carelessly in drills, three feet apart, covered with a one-horse plow; intending to "chop out" to a stand of one stalk six inches apart in the row; but failed to get a good stand, as the seed came up badly from the deep and irregular covering. Worked out, same as for corn, plowing twice and hoeing once.

By suggestion of Gov. Hammond, of South Carolina, I determined to give the Syrup-making a fair trial; consequently ordered from the Messrs. Winship, of Atlanta, a very complete horse-power mill, with vertical iron rollers, that has worked admirably, crushing out juice for eight gallons of Syrup per hour, worked by two mules, with one hand to put in the Cane, and a boy to drive.

On the 13th of this month, finding the seed fully ripe, I had the fodder pulled, and the seed heads cut.

Yield of fodder per acre, 1,100 to 1,300 pounds.

Yield of seed per acre, 25 bushels of 36 pounds to the bushel.

First trial of mill, 70 average canes gave 20 quarts of juice. 606 average canes, passed once through the rollers, gave 38½ gallons of juice: passed a second time through, gave 2 gallons of juice; the 40½ gallons, gave 8 gallons thick Syrup.

I carefully measured an eighth of an acre, having the best canes, and the best stand, another eighth having the poorest stand. The result I give below, the poorest canes and the poorest stand having passed once through the roller.

BEST EIGHTH OF AN ACRE.

| | | |
|---|---|---|
| Yield of juice from 3,315 canes | 253 | gallons. |
| Yield of syrup from 253 gallons juice | 58½ | " |
| Rates per acre of syrup | 468 | " |

POOREST EIGHTH OF AN ACRE.

| | | |
|---|---|---|
| Yield of juice from 2,550 canes | 179 | gallons. |
| Yield of syrup, from 179 gallons juice | 53¼ | " |
| Rates per acre of syrup | 346 | " |
| Weight of 30 selected canes | 49½ | pounds. |
| Weight of juice pressed out | 25¾ | " |
| Weight of crushed cane | 23 | " |
| Loss in crushing | ¾ | " |
| Weight of crushed cane dried in sun | 9⅛ | " |

The following tests were made at the mill, by Dr. Robert Battey, of Rome, Ga., a graduate of the Philadelphia College of Pharmacy:—

| | |
|---|---|
| Specific gravity of juice | 1.085 |
| Specific gravity of syrup | 1.335 |
| Specific gravity of New Orleans syrup | 1.321 |
| Thermometer applied to syrup | 77° |
| Thermometer applied to juice | 70° |
| Saccharometer applied to juice | 25½° |

The juice should be placed in the boilers immediately on being pressed out, then boiled slowly, until the green scum ceases to rise; then stir in a teaspoonful of air-slacked lime to five gallons of juice; continue skimming and boiling until the syrup thickens and hangs down in flakes on the rim of the dipper.

I have made the clearest syrup by simply boiling and skimming, without lime or other clarifiers.

The lime is requisite to neutralize a portion of the acid in the juice; the true proportion must be determined by well-conducted experiments.

The cost of making the Syrup in upper Georgia, in my opinion, will not exceed ten or fifteen cents per gallon. This I shall be able to test another season, by planting and working up fifty acres of the cane.

I am satisfied that this plant will enable every farmer and planter in the Southern States to make at home all the syrup required for family use; and I believe that our chemists will soon teach us how to convert syrup into sugar, for export, as one of the staples of our favored clime.

Obtaining such unlooked for success, with the Chinese Sugar Cane, I concluded to try our common corn. From a "new ground," I planted three by three, one stalk to a hill; a week beyond the roasting ear stage, I selected thirty stalks.

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* Six bottles of the Syrup, made from the Cane, were presented by Mr. Peters at the Exhibition.

| | | |
|---|---|---|
| Weight of 30 stalks | 35¾ | lbs. |
| Weight of juice | 15½ | " |
| Weight of crushed stalks | 19½ | " |
| Loss in crushing | ½ | " |
| Yield in syrup | 1½ | pints. |

The syrup of the common corn is of a peculiar disagreeable taste, entirely unfit for table use.—*Jour. U. S. Ag. Society.*

### REBECCA GRAPE.

The Rebecca originated in the garden of Mr. E. M. Peake, Hudson, New York, about eight years ago. Mr. Peake's garden is in one of the thickly settled streets of the city, and nearly the usual size of a lot, perhaps one hundred by one hundred and fifty feet deep. Between the house and the street, there is a small flower garden. It was here that the original vine grew. Mrs. Peake was about making some alterations in her flower beds, and this vine being in the way, her gardener advised her to dig it up, as it was only an "old wild grape." But disliking to destroy it, she removed it with her own hands, and planted it very carelessly in the garden, back of her house, in a very poor and cold clay soil. Here the vine made slow progress, but continued to increase in size until the third or fourth year, when it produced a few clusters of small white grapes. These appeared to possess so much merit, and were so much better than had been expected, that pains were taken to feed and nourish it, and prune it into shape, and it soon well repaid all the labor bestowed upon it. It grew vigorously, making shoots ten or fifteen feet long, and bore abundant crops of the most delicious grapes, until at the present time it has reached the top of the house, and covers a trellis ten feet wide and twenty-five feet high, loaded with fruit.

Bunches medium size, about six inches long, very compact, without shoulders; berries medium size, obovate, about three-quarters of an inch in diameter; skin thin, greenish white, becoming of a pale amber color at full maturity, covered with a thin white bloom; flesh very juicy, soft, and melting, and free from pulp; flavor rich, sugary, vinous, and brisk, with a peculiar musky and luscious aroma, distinct from any other grape; seeds small, two to four in each berry; leaves scarcely of medium size, about seven inches long and seven in width, very deeply lobed and coarsely and sharply serrated; upper surface light green, slightly rough; under surface covered with a thin, whitish down; nerves prominent; petioles rather slender.

Pure phosphorus is worth from four thousand to five thousand dollars a ton; and as it comes from the earth, it shows how scarce it is.

### PROPORTION OF MILK TO BUTTER.

The following account is compiled from Johnston's statement of the yearly produce of a cow, in Scotland, England, Holland and Switzerland:—*Ayrshire cow*—135 lbs., or 1 lb. of butter to a little over 8 quarts of milk. In Holstein and Lunenburg it is considered, on an average, that 15 quarts of milk will yield only one pound of butter. In most districts the average of the whole year is much less than a pound a day, even for ten months only. In Devon, for the first 20 weeks after calving, a good cow will yield 12 quarts of milk a day; from which by the method of scalding a pound and a quarter of butter can be extracted. In South Holland a good cow will produce, during the summer months, about 76 lbs. of butter. In the high pastures of Scarain, Switzerland, a cow will yield. during the ninety days of summer, about 40 lbs. of butter, or less than half a pound a day. In Holstein and Lunenburg it is considered a fair return if a cow yields 100 lbs. of butter; and even in England (British Husbandry, 11. p. 404,) 160 to 180 lbs. is reckoned a fair annual produce for a cow, or from 8 to 9 ounces a day for ten months in the year.—*Johnston's Ag. Chemistry*, pp. 552, 553.

### SUMMER CARE OF TREES.

The general policy in the management of a young tree is to throw its whole vital, wood-making power into those branches, and those alone, which are needed, and are to be preserved; that is, so to manage the tree that half its growth, every two or three years, shall not be thrown away in pruning. Examine the branches. See first what are necessary to make the tree symmetrical. Then pinch off every other sprout. If one starts from the bottom, pinch it off at once. If a branch is pushing out too rapidly for the rest, and threatens to outgrow them, pinch off the end and stop it. In this way, all the sap is appropriated just where it is wanted, and the tree does not have to be shocked every year by the wounds of the pruning knife. All young trees should be mulched. It is time to do this now. Let not their roots get the blighting impressions of the hot sun at all. The mulching can be done in numerous ways. If the tree needs enriching, put a good coat of coarse manure around it. The cheapest mulch, and one that answers well, though it does not look very well, is the grass mowed about this time in the door yard. Put on enough of it so that it will not dry up, but form a mass and rot. Do not try to grow too much wood. If the trees are set out this spring, remember that their roots have not got firm hold of the earth yet, and that their ability to feed the branches is limited. Therefore, cut down to meet the ability of the roots, in their new location. With intelligent care, you can save all your trees, and soon put them beyond harm's way. By all means do not be afraid of manure, in almost any form.—*Exchange.*

### HOW TO MANURE TREES IN GRASS LAND.

Very few persons manure trees growing in sod or grass land, in a judicious or economical manner. The general practice is to dig the manure in, within a diameter of six feet, having the body for the centre. The tree takes its food from the young rootlets, whose mouths extend just as far on every side, as the branches of the tree; hence, this manure applied close to the body of the tree, is not where the roots take it up; and, of course, but little of its value is absorbed by the tree. If you doubt it, just try the experiment on two trees. Serve the one as above named, and the other, as follows, viz:—Mark a circle around the tree, having for its outline the exact radius formed by the overhanging branches; dig on the inner side of this circle a trench two feet wide, and one foot deep; mix well-rotted manure half and half with the best of the soil, or the earth dug out of the trench, and fill the trench with it; then replace the turf, and wheel away the refuse, or extra earth; rake clean and smooth; you will have a good growth of tree; your fruit larger and more fair, and no unsightly or unnatural hillock or mound around the body of the tree.

### SOAP FOR KILLING BORERS IN TREES.

S. S. Green, of East Cambridge, has made an experiment with this article. He has in his garden a white ash tree, which was full of these worms, so fatal to our fruit and ornamental trees. He covered every place on the tree which appeared to be wounded by them, with common hard soap, nicely rubbed into the place where the borer seemed to have entered. During the rains of this week, the soap dissolved and penetrated to the worms, which forced them out by scores causing their death. We think this the best remedy yet discovered for destroying these nuisances to gardens and orchards.—*Exchange.*

### THE GRAIN CROP OF OHIO.

The Auditor of Ohio has made his report on the grain statistics of that State for 1856, to the Legislature. The number of acres sown with wheat was 1,407,773; bushels gathered, 19,569,320; the average yield, 31.81 bushels. The whole number of acres of corn planted was 2,205,282; bushels gathered, 87,782,334; average yield, 39.72 bushels.

Clay, applied to sandy land, is far better than sand to clay land. One hundred tons to the acre, will give an inch in depth.

### TRIALS OF IMPLEMENTS, MANURES, &C.

Practical trials of implements are justly attracting the attention of agriculturists. Farmers see a new machine at the fall exhibitions, but its value can only be determined by trial, and *repeated* trial under different conditions of weather, growth, soil, &c.

One principal object in the institution of the Farmers' High School is the trial of new methods, implements and appliances for the common benefit of all culturists at the earliest possible period; and the section introduced into the bill in aid of the Institution, by Mr. Gildea, provides that the School shall furnish reports of experiments on seeds, trees, plants, &c., to *each newspaper in the State, monthly* or immediately after the results of such experiments are made known.

Inventors and manufacturers in other States should make note of this. It is obvious how superior the means will be of making these tests fully and truthfully at the High School, when it is fully equipped and supplied, as we are sure it will be, with energetic, persevering, practical men, in each division of the experimental department of the farm. Time and space will be at command, as well as means and skill, and this merely incidental advantage of the School will readily repay a hundred-fold its cost.

The present address of the School is "Farmers' High School, near Boalsburg, Pa.' As strong a force as can be applied is now at work on the erection of the necessary buildings.

### A NEW OIL.

A new article, called "Refined Cotton Seed Oil," has been introduced into the market, for burning and machinery purposes. It is a handsome oil, and sells at $1 to $1 03 per gallon, bleached at $1 10, and the crude article at 60 to 70 cents. Cotton makes an immense quantity of seed, the only use for which, heretofore, has been as manure. There has been much talk for several years past of crushing it for oil, but the general opinion has been that it did not contain enough oil to make a paying business. Recently two mills have been put into operation for this purpose; one at New Orleans, and the other at Providence. The public have not yet been informed whether the oil is good enough, or abundantly sufficient to make the crushing of this seed a profitable business. Some sanguine calculators at the South have, in times past, estimated that the seed would produce the planter, when it came to be used for oil, half as much as the cotton itself.

### INDICATIVE OF CHARACTER.

The appearance of a farm, its buildings, and the live-stock belonging to it, indicate the character and standing of its owner.

### TWIN HEIFER CALVES NOT BARREN.

The impression is very common, says *The Homestead*, that twin heifers are barren, and many of them are, as calves, consigned to the butcher in consequence. That this impression is quite unfounded, is known to many. A subscriber in Westfield, Mr. Alvan Fowler, communicates the fact that he has a pair of twin cows, twelve years old, very fine animals, worth at least $75 a-piece; each of them has had eight calves. He has seen a statement in the Massachusetts *Ploughman*, confirming the false idea that people should never raise twin heifer calves, and offers this fact now to controvert it.

### WHITE-WASH.

The following is a recipe for white-wash, very celebrated as that used for the east end of the President's house at Washington:

Take one peck of clean lumps of well burnt stone lime, slack it, add one half pound of whiting, or burnt alum pulverized, one pound of pulverized loaf sugar, three pints of rice flour made into a very thin and well boiled paste, one pound of clean glue dissolved in the same manner as is done by cabinet makers, that is, boiled or simmered slowly. Mix the whole well together, and reduce to proper consistence with boiling water. For inside work it may be put on cold—for outside work it should be applied warm.

#### ANOTHER RECIPE.

Take one peck of unslacked lime, put it into a tub, pour thereon a sufficient quantity of water to slack it; when slacked, add a half gallon of chamber ley, pour it in slowly, taking care to stir the slacked lime as the chamber ley is being poured in; then add as much water as will bring it to the proper consistence of white-wash.

At the Monthly Council of the Royal Agricultural Society last week, Mr. Hudson, of Castleacre, called attention to the obscure but important subject of *nitrification*. He found, in his own practice, that farm-yard manure exposed on the land for a few months, acquired, either from the atmosphere or from some chemical change going on among its own elements, or from some other source or cause to him unknown, a remarkable addition to its manuring properties, as evidenced by the resulting crop to which it was applied, in comparison with the same manure at once ploughed in without such previous exposure.

Mr. Morris, of Welton and Waddington, was the largest exhibitor of wether hogs in the Lincoln Sheep Fair. He exhibited 1000 of his own breed, which sold for £3 each all round.

### NEW JERSEY STATE AGRICULTURAL FAIR.

The *New Brunswicker* announces that the Executive Committee of the State Agricultural Society have accepted the proposition of the citizens of New Brunswick, and will hold the next State Fair in that city. Proposals were received from Jersey City, Trenton and Hoboken, besides New Brunswick.

The latter city have agreed to give the State Society for the use of the Fair, the ground rent free, $1200 in cash, and grade (under the supervision of the State Society) for the exhibition of horses thereon, a half mile track thirty feet wide. The Executive Committee met there on Thursday, and and agreed to accept of the proposition, and hold the Fair there on Tuesday, Wednesday, Thursday and Friday, September 29 and 30, and October 1 and 2.

Mr. R. S. Whitfied, resident medical officer of St. Thomas's Hospital, states that the Corporation of Antwerp now receive 120,000 francs a year for the sweepings of the streets and the contents of the cesspools; contractors converting the nuisances into powerful guano. Formerly the corporation used to pay 20,000 francs yearly to get rid of the city refuse. At Paris and Milan, "town guano" is manufactured which has extraordinary powers as a fertilizer.

THE KING OF PORTUGAL has just sent over to the Queen of England a present of cattle of a very peculiar breed, consisting of a bull, two heifers, and a bull calf. The animals are of the most perfect symmetry, and very diminutive, standing scarcely forty inches high: they are of a dun color, and in fine condition.

The hog cholera rages badly in Worcester, Massachusetts. The *Transcript* says, that one person near the Agricultural Grounds, lost thirty-two out of sixty of his herd last week. He has sixteen more sick, and not expected to survive, leaving him but twelve out of his sixty.

Flour made from wheat of this year's growth has made its appearance in the New York markets, and was sold at about $11 per barrel. A New York paper says that it was ground at the Carmichael Mills, at Augusta, Georgia, from white wheat grown in that vicinity, and was one of the finest samples ever sent forward. The invoice consisted of ten barrels, and was received from Charleston by the steamer Marion, consigned to Mr. A. O. Parmelee. No new wheat has yet come to hand. Last year the first new wheat arrived here on the 19th of June, and the first new flour on the 22d; so that this shipment is nearly a week in advance of the first receipts of the crop of 1856.

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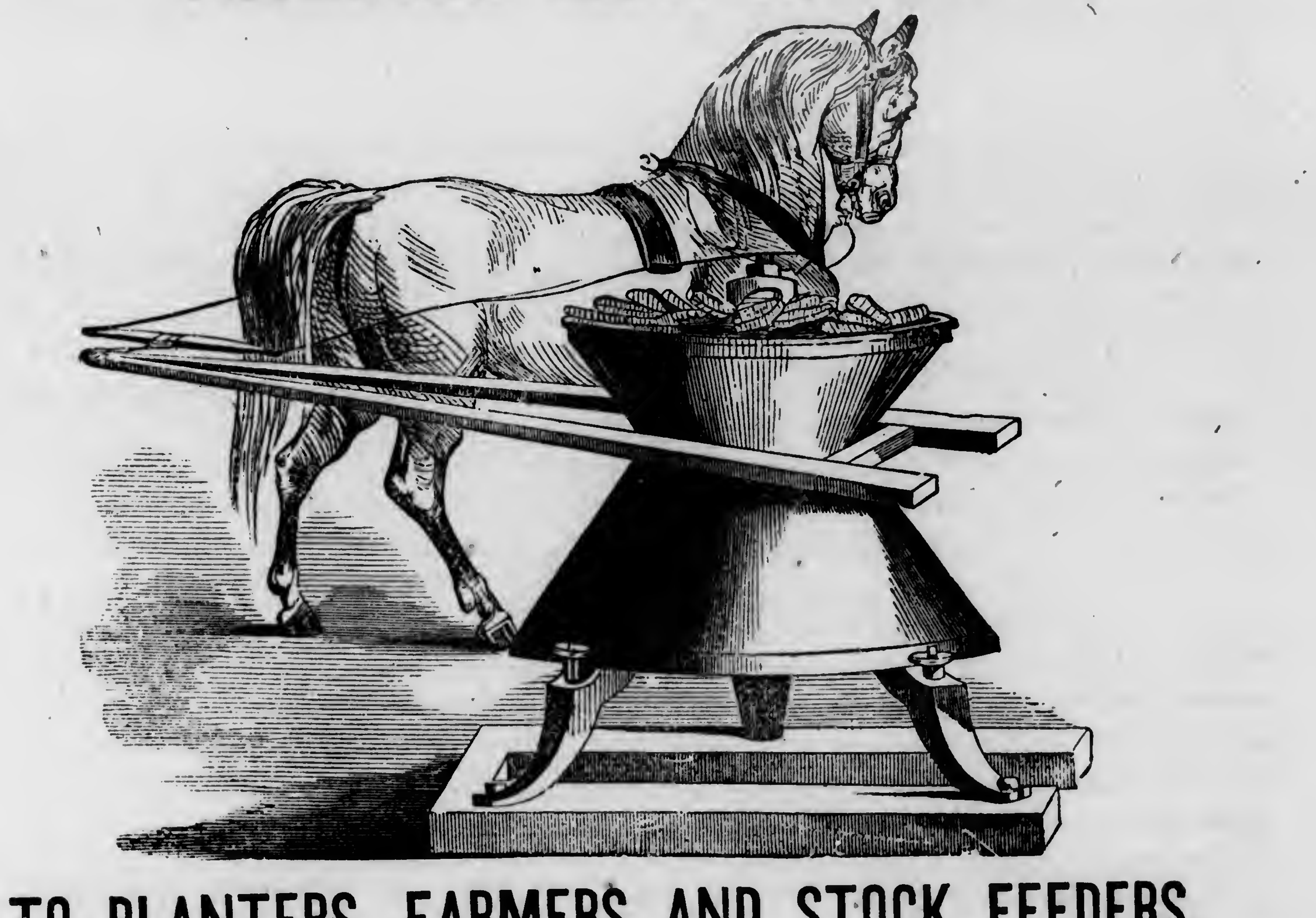
## GRANGER'S MAGIC
## CORN AND COB AND MEAL MILL.
### PATENTED SEPT. 18, 1855.



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The construction of this Mill, and which renders it superior to others, are these:—It grinds Corn and Cob finer, requires about one-half the amount of power of other Mills, and by the use of Friction Rollers at the base of the outer Shell, it prevents the fine teeth coming in contact, (which they do in other Mills); and after YEARS of use, can be repaired at an expense of $3.00, making it equal to a new Mill. It is not injured if worked when empty. These facts and the superior Castings, make this Mill, beyond all doubt, superior to all others.

For further information, apply to the manufacturers,

**CRESSON, STUART & PETERSON,**
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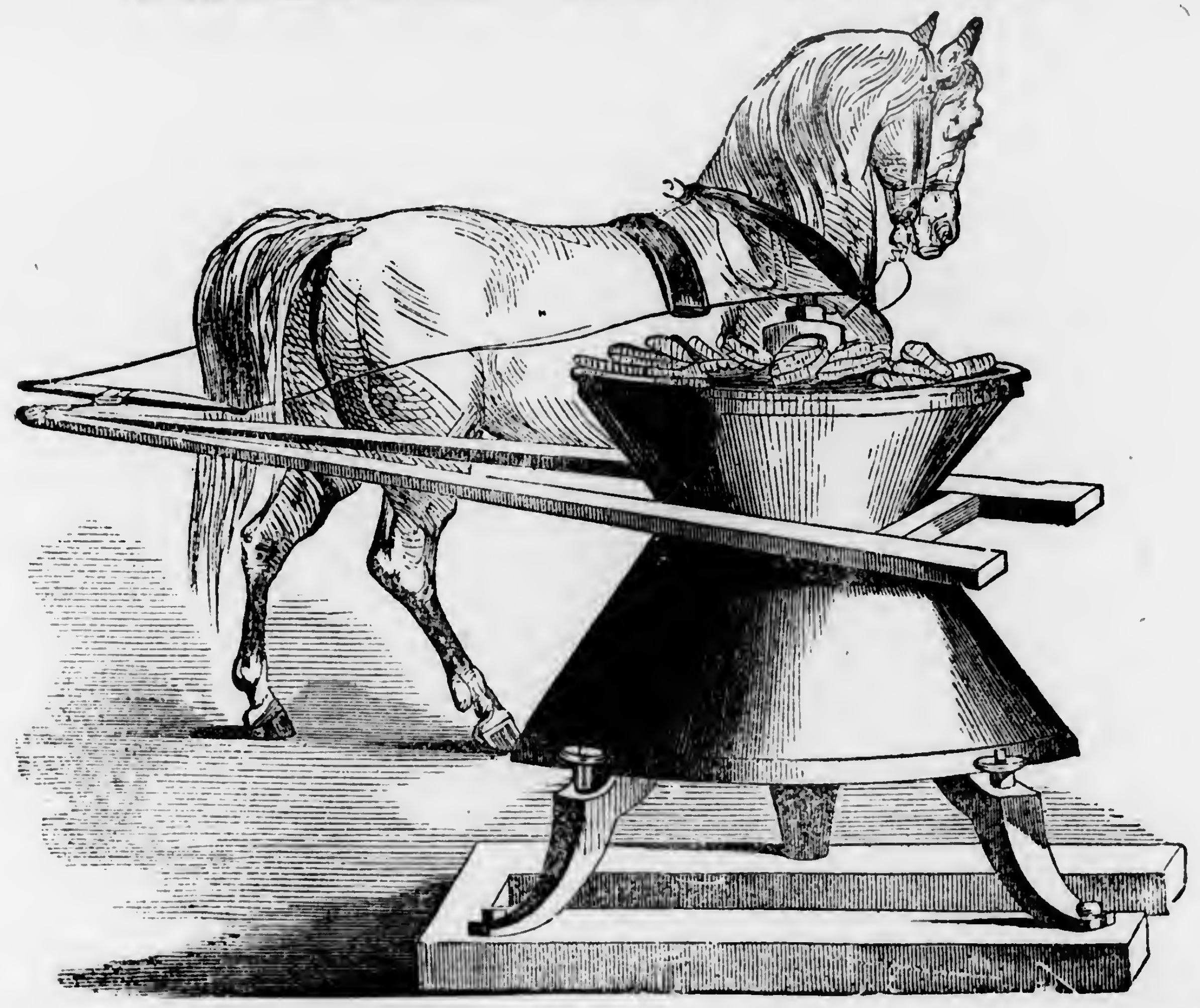

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Jan. 1y **Corner of Seventh and Market Streets.**

INTENTIONAL SECOND EXPOSURE

## A. HARSHBARGER,

GROWER OF

## OSAGE ORANGE HEDGES,

**McVeytown,**

MIFFLIN CO. PA.

**A large lot of Plants always on haud.**

A full description of these useful and beautiful hedges, with directions for planting, trimming, &c., will be cheerfully given by addressing as above. Jan—tf

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KETCHUM'S MOWER AND REAPER.—We are now receiving orders for Ketchum's combined Reaper and Mower, of improved construction since last year. They have been fully tested for several years past, and are believed to be better adapted to the wants of the farmer than any other machine in the market. They are warranted to cut 10 to 15 acres of grass or grain in a day, as well as it can be done with a scythe or cradle.

PASCHALL MORRIS & CO.,

Apl— Implement and Seed Store, 7th and Market

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GREAT IMPROVEMENT IN RAILWAY THRESHING MACHINERY.—Our powers are of the most durable pattern, the platform is longer than any other and has a covering of inch boards to protect the lagging, when these wear out any one can replace them at a trifling expense. The band wheel will go on either side of the power; the cogs of the pinions are chilled which prevents their wearing, and the power is mounted on two wheels by which it may be easily moved.

Our Threshers have the most durable iron cylinders yet invented, the teeth have never been known to break out; the boxes have self-oiling cups which insures the Journal to be always lubricated without wasting oil, this prevents all heating and consequent wear of the boxes, and is an invaluable improvement in threshers.

The small wheels and cog gear of the power are oiled by a similar arrangement. Our shakers are driven by the main band, and require less than half the power used by the ordinary method. The shaker pulley will fit on the horse-power and may be used for driving any machinery requiring a slow motion. Our two horse power with a pair of light horses and three or four hands, is capable of threshing 175 bushels of wheat or double that amount of oats per day. We warrant our machines to thresh clean, not to crack the grain, to be durable, and owing to the diminished diameter of the cylinder and the improved method of driving the shaker, to require less power than any other machine. The complete two horse machine will consist of a double railway horse power, a 29 inch iron cylinder thresher, a shaker, 30 feet of 3½ inch India rubber belting, fixtures, for hulling clover seed, a pair of hooks to fasten the thresher to the floor, a pair of self-feeding oil cups for the power, a wrench, tin covers for the oil cups and an oil can. Price $140 in York. With the one horse machine will be sent a 24 inch thresher and all the fixtures enumerated as above. Price $120 in York.

Persons interested will please write early to W. W. Dingee & Co., York, Pa., and receive a circular.
May 6mo.

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GET THE BEST WEBSTER'S QUARTO DICTIONARY.—What more essential to every family, counting room, student and indeed every one who would know the right use of language—the meaning, orthography, and pronunciation of words, than a good English DICTIONARY?—of daily necessity and permanent value.

WEBSTER'S UNABRIDGED

is now the recognized Standard, "constantly cited and and relied on in our Courts of Justice, in our legislative bodies, and in public discussions, as entirely conclusive," says Hon. JOHN C. SPENCER.

*Can I make a better investment?*

"For copiousness, exactitude of definition and adaptness to the present state of science and literature, the most valuable works of the kind that I have ever seen in our language."—*President Wayland.*

Published by G. & C. MERRIAM, Springfield, Mass.—sold by all Booksellers. Also Webster's School Dictionaries.

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AGRICULTURAL IMPLEMENTS.—The largest assortment of Plows, ever offered in Philadelphia consisting of *Eagle, Blaker, Prouty, Subsoil, Side Hill, Peekskill* and *Star* Plows; also Expanding Harrows of various sizes, Square and Geddes' Harrows, Expanding Cultivators, for field and garden, hand plows, farmer's boilers, barn door rollers, wheel and canal barrows, ox yokes and bows, hay, straw and fodder cutters, cast iron rollers of various sizes for field and garden revolving horse rakes, seed drills, grindstones, premium Star corn shellers, of different sizes, Reading's power corn sheller, grain fans. hay and manure forks, picks and mattocks, draning tile, &c., with all other implements needed by the farmer or gardener.

PASCHAL MORRIS & CO.,
Implement and Seed Store, 7th and Market, Philada.
Apl—

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## MORRIS NURSERIES,

J. L. DARLINGTON & CO., Proprietors.

We offer for the Spring demand our usual large assortment of Fruit and Ornamental Trees, Shrubbery, Roses, &c., &c. The fruit department consists of all the leading varieties of Apples, Stand and Dwarf; Cherries, Stand and Dwarf; Pear, Stand and Dwarf. 20,000 Peach Trees, well grown, fine and thrifty. Also, a fine stock of Apricots, Nectarine, Currants, Gooseberries, Native and Foreign Strawberries, Raspberries, Rhubarb, Asparagus, Grapes, &c., &c. The ornamental department is very full, having spared neither money or labor to get up a stock to suit the wants of the public. We grow a large quantity of Oaks, Walnut, Maples, Ash, Lindens, Horse Chestnuts, Beech, Paulonias Poplars, Magnolias; also, Norway Firs, Balms, Austrian Pines, Spruce, White Pines, Junipers-arborvitæ for planting in masses, making screens or hedges, and a large lot of the finer and rarer trees for Parks, Cemeteries, Lawns, &c., &c.

Persons about planting new places either with fruit or ornamental trees would do well to call on or address the proprietors. For further particulars we refer to our Catalogue, which will be sent to all applicants. Terms cash, or a responsible reference in Philadelphia. Address,

J. L. DARLINGTON & CO.,
Feb—tf *West Chester, Pa.*

# HAYMAKING AND HARVEST.

We are now prepared to supply from our own manufactory, the following desirable Implements for the Hay and Harvest Field:

## KETCHUM'S UNRIVALLED REAPER AND MOWER,

Greatly Improved, and warranted in every particular. Price of Reaper and Mower, $135; Mower alone, $115.

## PRATT'S PATENT SPRING TOOTH HORSE RAKE,

Beyond all doubt the best Rake ever invented.

## REVOLVING HORSE RAKES

Of the latest improved pattern and best material.

## SELF-ADJUSTING, UNLOADING FORKS.

We have greatly improved these, and are warranted in asserting that they are altogether superior to those made by us last season. All the above goods are from the STAR AGRICULTURAL WORKS, at Reading, which is the best evidence we can offer of their superiority. We challenge a comparison of the goods manufactured at the above works, with those made at any other establishment in the United States, believing them to stand unrivalled.

## CRADLES, SCYTHES, FORKS, &C.

In this department our stock cannot be excelled. The articles we keep are the very best which can be procured, and are confidently recommended. We ask an examinatiom of our stock, satisfied that purchasers cannot fail to be pleased.

BOAS, SPANGLER & CO.,
**NEW AGRICULTURAL WAREHOUSE,**
**No. 627 Market Street, below Seventh, Philadelphia.**
F. S. BOAS. A. M. SPANGLER. W. H. SPANGLER.

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SUPERIOR CAST STEEL HAY AND MANURE FORKS—The very best in use, and in great variety.
BOAS, SPANGLER & CO.,
Apl— No. 627 Market st. below 7th, Philada.

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MAPES SUPER PHOSPHATE OF LIME.—Allen & Needle's do., Guano, Proudette, Super do.
BOAS, SPANGLER & CO.,
Apl— No. 627 Market st., Philada.

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CUMMING'S CELEBRATED HAY, STRAW AND FODDER CUTTERS.—Unequalled by any in the Market. Also, Daniel's, Hovey's and others.
BOAS, SPANGLER & CO.,
Apl— No. 627 Market st., Philada.

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FRESH GARDEN SEEDS.—Warranted genuine All new stock, and at fair prices.
BOAS, SPANGLER & CO.,
Apl No. 627 Market st., below 7th, Philada.

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PLOWS, HARROWS AND CULTIVATORS—Of the most approved kinds, of our own manufacture.
BOAS, SPANGLER & CO.,
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---

FERTILIZERS FOR FIELD AND GARDEN.—1000 barrels Poudrette from the Lodi Manufacturing Co., New York. Having received the sole agency in Philadelphia, for this valuable fertilizer, we can supply orders at wholesale and retail. For corn in the hill, or for garden crops, it has been found very superior. Also for sale, Bone dust by the ton, superphosphate of Lime, Plaster, &c. PASCHALL MORRIS & CO.,
7th and Market, Philada.
Apl—

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HORTICULTURAL TOOLS.—A large assortment of fine Horticultural Tools, consisting in part of superior Spading Forks, Hedge and Garden Shears, Border Knives, Scuffle Hoes, Pruning and Budding Knives, Bill Hooks, Grafting and Pruning Saws and Chisels, English Lawn Rakes, Garden Trowels, Grass Hooks, Lawn Scythes, Pruning Scissors, &c., at wholesale and retail.

PASCHALL MORRIS & CO.,
Implement and Seed Store, 7th and Market, Philada.
Apl—

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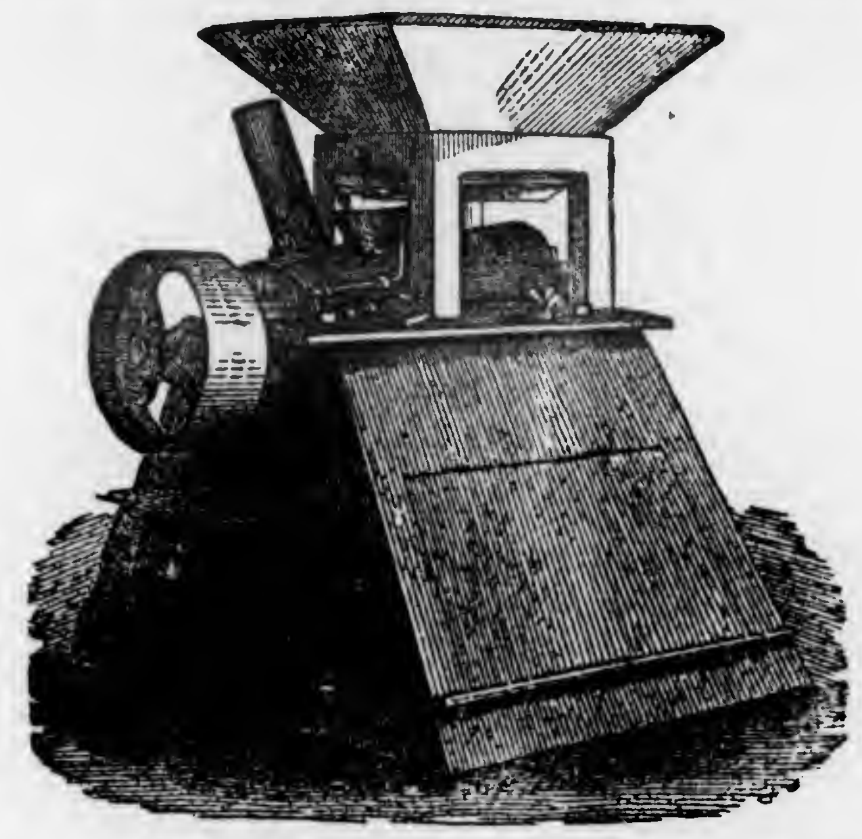
PRATT'S PATENT HORSE RAKE.—Although this implement has been but a short time in the hands of farmers, yet it has already attained a very high reputation. The ease with which it is operated, and its great efficiency, renders it at once an important adjunct to the Mowing Machine. It is to be had of P. Morris & Co., of this City. May, 1t

# COLEMAN'S FARM MILL



This is the most efficient, simple and durable FARM MILL now in use, and it precisely meets the wants of the farmer, as it is not only adapted to

**GRINDING CORN IN THE EAR.**

but will grind with rapidity

**SHELLED CORN, WHEAT, RYE OR OATS.**

*Fine or Coarse Meal, or Superfine Flour*, if required. It is easily attached to horse or any other power, and will *grind rom EIGHT TO FIFTEEN BUSHELS PER HOUR*, according to power and speed. This Mill is constructed on an entire *new principle*, which has never been used, so that it can be run for years without any perceptible wear. In fact, it has proven itself to be the only efficient and DURABLE mill now in use. We invite farmers and dealers to call at our Seed and Agricultural Warehouse, **No. 29 Market Street, Philadelphia,** and see one in operation. This Mill has received the following premiums:

| | | | | | |
|---|---|---|---|---|---|
| 1st | Premium | at the | Delaware State | Fair, | 1856. |
| 1st | do. | do. | Chester Co., Pa., | Fair, | do. |
| 1st | do. | do. | Berks do. | do. | do. |
| 1st | do. | do. | York do. | do. | do. |
| 1st | do. | do. | Franklin do. | do. | do. |
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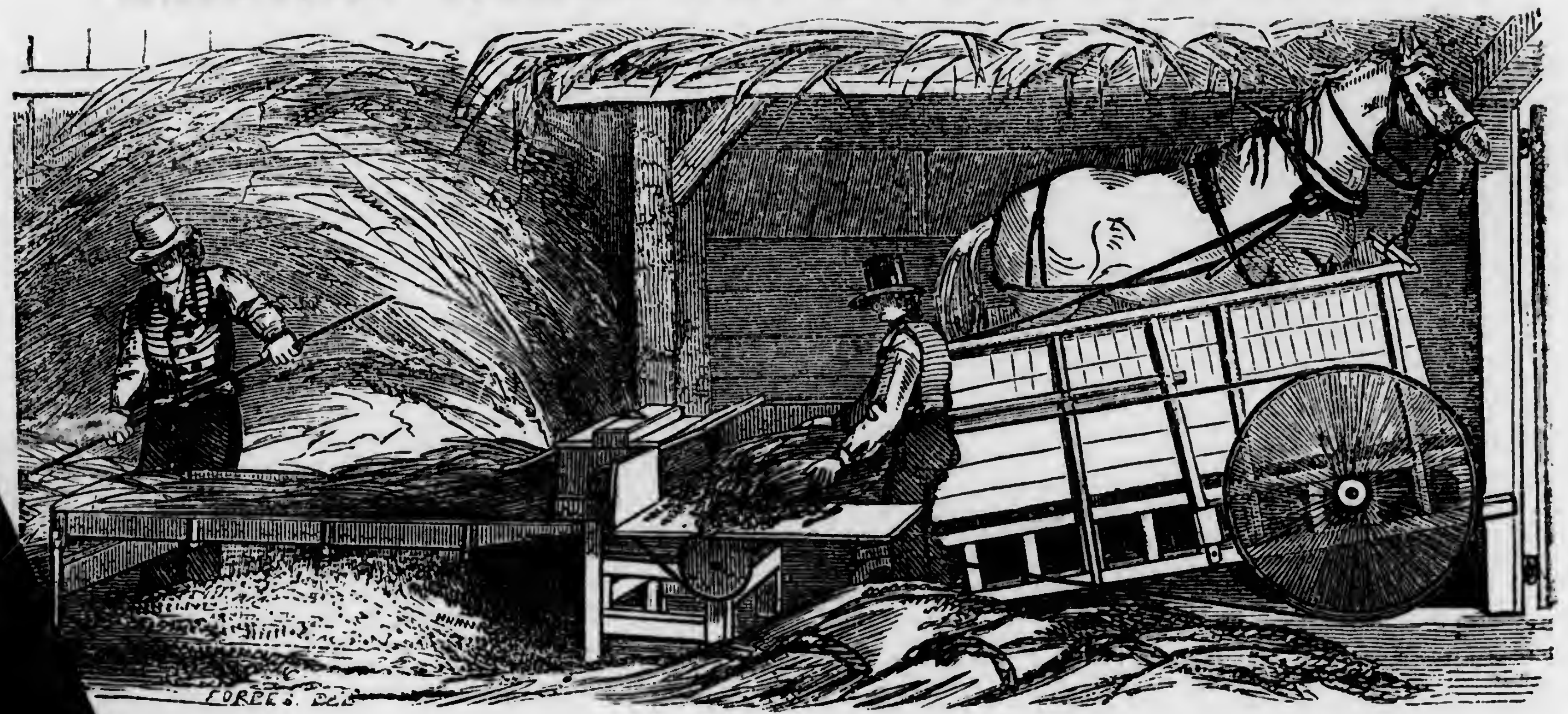

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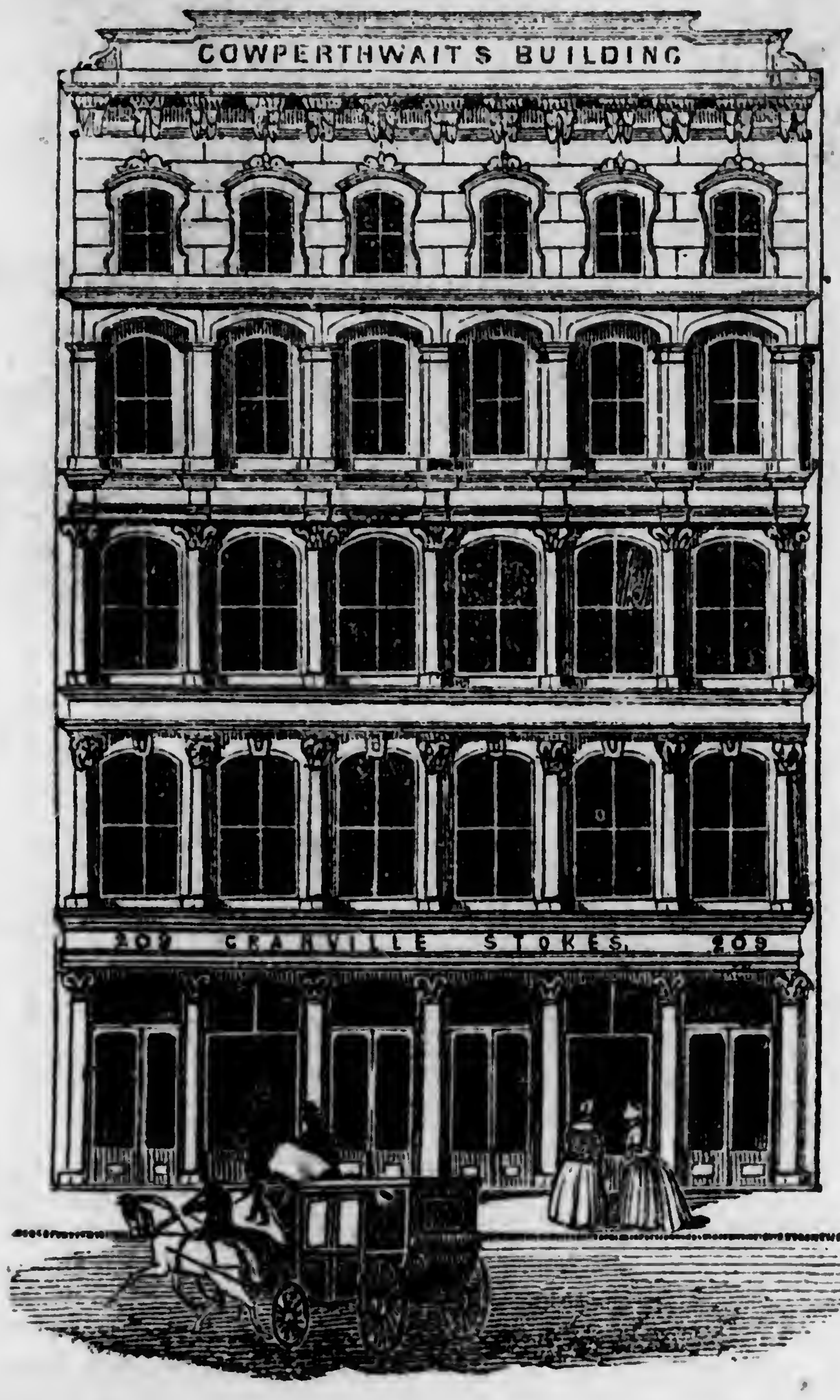

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